Disclosure Distance and Earnings Announcement Returns

Ryan Erhard

University of Southern California

Marshall School of Business, Leventhal School of Accounting

ryan.erhard.phd@marshall.usc.edu

Job Market Paper

Abstract

I hypothesize that investors view earnings announcements preceded by distant disclosure as being riskier than announcements preceded by recent disclosure. Consistent with this hypothesis, distant disclosing stocks have greater idiosyncratic jump risk at earnings announcements. Distant disclosing stocks also earn positive abnormal announcement returns, suggesting that investors anticipate the greater idiosyncratic jump risk and demand risk premium to hold these stocks at earnings announcements. Additional empirical tests drawing on the theoretical model in Merton (1987) support the investor pricing of idiosyncratic jump risk explanation.

JEL Codes: G11; G12; G14; M41
Keywords: Disclosure; Earnings Announcement Returns; Idiosyncratic Risk; Jump Risk; Investor Recognition

*I thank the members of my dissertation committee: Patricia Dechow, Christopher Jones, Maria Ogneva, Richard Sloan (chair), and Mark Soliman for many helpful discussions and suggestions for this paper. I also thank Katherine Bruere, AJ Yuan Chen, Jonathan Craske, Brookelyn Erhard, Jesse Gardner, Jung Koo Kang, Clive Lennox, Vivek Pandey, Matthew Shaffer, Ventsislav Stamenov, David Tsui, Regina Wittenberg-Moerman, TJ Wong, and Jun Yoon for constructive feedback. I thank USC Marshall/Leventhal for research funding.

1 Introduction

Investors rely on discrete corporate disclosures to learn private information about firm value, while managers observe this information in real time. At a minimum, SEC regulation requires disclosure at quarterly intervals, preventing managers from engaging in nondisclosure for longer than a quarter. This paper asks: what are the capital market consequences of nondisclosure between mandatory reporting periods?

Nondisclosure between mandatory reporting periods creates a more discrete (jumpy) disclosure environment where firm-produced information arrives at fewer points spread out over time. An earnings announcement preceded by intraperiod nondisclosure represents a jumpier information flow compared to an earnings announcement preceded by other disclosures, such as 8-K filings or issuance of earnings guidance. Empirically, I show that a more discrete information environment with nondisclosure between reporting periods leads to increased idiosyncratic jump risk at earnings announcements.[1]

Managers face trade-offs when making disclosure decisions, providing several reasons why managers engage in nondisclosure. While disclosure has capital market benefits (e.g., Diamond and Verrecchia, 1991; Heflin et al., 2005; Balakrishnan et al., 2014; Billings et al., 2015), disclosure can also be costly. These costs range from proprietary costs of disclosure (e.g., Verrecchia, 1983) where disclosure causes competitive harm, to more concrete costs of disclosure such as compliance costs associated with making a disclosure (e.g., Kajüter et al., 2018). Increased disclosure can also crowd out trading from informed investors, inhibiting managerial learning from stock price (Jayaraman and Wu, 2018; Chen et al., 2021). Another practical consideration is whether routine voluntary disclosure of short-term forecasts, such as quarterly earnings guidance, introduces incentives to engage in managerial myopia (e.g., Chen et al., 2011; Kim et al., 2017). Further, short-term metrics can be noisy. For example, in a break from industry practice, automotive manufacturer General Motors stopped providing

[1] Idiosyncratic jump risk is the risk of a stock-specific sharp up or down movement in stock price. I use "idiosyncratic jump risk" and "jump risk" interchangeably throughout.

monthly sales numbers to investors, citing the noisiness of the underlying monthly sales metric. GM's sales operations chief, Kurt McNeil, said in an interview with *The Wall Street Journal*: "Thirty days is not enough time to separate real sales trends from short-term fluctuations in a very dynamic, highly competitive market," ("GM Scraps a Standard in Sales Reporting," WSJ, April 3, 2018).

Managers may also choose to defer issuance of voluntary disclosure while engaged in uncertain business transactions such as M&A transactions until the resolution of uncertainty. The National Investor Relations Institute (NIRI) illustrates the balancing act managers face in this regard when determining the timing of disclosure:

> "Premature disclosure can be extremely damaging if future events change the perception of the event. These circumstances call for judgment — disclosure too soon may mean a company has failed its current stockholders by failing to include all relevant information; disclosure too late may mean the company has missed a disclosure deadline or extended the class period for a potential class action lawsuit," (Standards of Practice for Investor Relations, NIRI, 2016).

Classic disclosure models imply unraveling, where full disclosure is optimal. More recent theoretical work identifies equilibria where both good and bad news are not immediately disclosed. Extending the static model in Dye (1985), Guttman et al. (2014) find in a dynamic model that managers potentially endowed with multiple signals in a multi-period game can maximize firm value by disclosing private information later in the game rather than sooner, showing an option value of nondisclosure. Marinovic and Varas (2016) model that litigation risk can crowd out positive disclosures, leading to a world where "no news is good news." Bond and Zeng (2021) model optimal disclosure for a manager who does not know shareholder preferences and find an equilibrium where nondisclosure is optimal, providing another explanation for why unraveling models do not fit the data in some settings.

To empirically study the capital market consequences of intraperiod nondisclosure, I proxy for elapsed nondisclosure via disclosure distance. At each earnings announcement date, I first calculate the number of days since the previous material disclosure. To calculate disclosure distance, I scale the number of days since disclosure by the intraperiod length in days between adjacent earnings announcements to neutralize the effects of early or late reporting. Disclosure distance ranges from $(0, 1]$ with a low value indicating a recent disclosing firm and a value of 1 indicating a distant disclosing firm (i.e., a silent firm with no material intraperiod disclosures).

Once investors learn information at earnings announcements, the stock price can jump in response to the announcement. Following Kapadia and Zekhnini (2019), I define a jump in daily stock price as an absolute idiosyncratic return greater than 3 historic standard deviations. Consistent with nondisclosure between mandatory reporting periods increasing jump risk, I find that disclosure distance forecasts idiosyncratic jumps in stock price around earnings announcement dates: 39% of distant disclosing stocks experience a jump in the earnings announcement window compared to 34% of recent disclosing stocks.[2]

Next, I build on prior research finding that idiosyncratic jump risk is priced (Kapadia and Zekhnini, 2019) and *only* the jump component of idiosyncratic risk is priced (Bégin et al., 2019).[3] Because investors in distant disclosing stocks are exposed to greater idiosyncratic jump risk at earnings announcements, I hypothesize that jump-risk-averse investors demand a risk premium for holding distant disclosing stocks at earnings announcements. Consistent with this hypothesis, disclosure distance is positively associated with earnings announcement returns. In portfolios sorted by disclosure distance, only the distant disclosure portfolio earns a significant, positive alpha on earnings announcement dates, suggesting that investors price intraperiod nondisclosure as increasing idiosyncratic jump risk.

Investor pricing of idiosyncratic risk is at odds with traditional asset pricing theory (e.g., Sharpe, 1964) that posits exposure to only systematic risk should be priced in equilibrium. Merton (1987), however, shows that exposure to idiosyncratic risk can be priced when investors are under-diversified. Prior research finds supporting evidence for investor under-diversification for both active mutual fund managers (Kacperczyk, Sialm, and Zheng, 2005)

[2]Hereafter, I refer to the earnings announcement event window [0,1] as the earnings announcement date for brevity.

[3]Both Kapadia and Zekhnini (2019) and Bégin et al. (2019) do not explore the disclosure environment when examining investor pricing of jump risk.

and individual investors (Barber and Odean, 2008), which provides an explanation for idiosyncratic risk being priced unconditionally. More specifically, Merton (1987) coins the term "investor recognition" as the number of investors who know about a stock in order to illustrate a friction that could lead to under-diversification in practice. Idiosyncratic risk can be priced for stocks that have low investor recognition because some investors must take large positions in stocks with low investor recognition, resulting in under-diversification and exposure to idiosyncratic risk. Lehavy and Sloan (2008) and Bodnaruk and Ostberg (2009) find empirical results consistent with the predictions in Merton's model.[4]

To provide additional evidence for the idiosyncratic risk explanation for the positive relation between disclosure distance and earnings announcement returns, I employ a cross-sectional test based on the theory in Merton (1987). Because I hypothesize that the positive relation between earnings announcement returns and disclosure distance reflects pricing of idiosyncratic risk, I expect that the positive relation between earnings announcement returns and disclosure distance attenuates as investor recognition increases. I find empirical results consistent with this prediction: disclosure distance has stronger explanatory power for earnings announcement returns in the cross section of stocks with low changes in investor recognition and almost no explanatory power in the cross section of stocks with high changes in investor recognition.[5]

Lastly, I conduct an additional test controlling for beta-shifts at earnings announcements to further corroborate the idiosyncratic risk explanation. Ball and Kothari (1991) examine the unconditionally positive stock returns on earnings announcement dates and attribute the positive returns, in part, to increased systematic risk at earnings announcements. Using high frequency return data, Patton and Verardo (2012) also find that CAPM betas shift at

[4] I employ Merton (1987)'s theory because investor recognition has an observable empirical proxy established in the literature. There are other theories of investor pricing of idiosyncratic risk, however. For example, Goyal and Santa-Clara (2003) argue investors are exposed to "background" risk in nontraded assets, which is unobservable to the econometrician. The background risk theory posits that investors holding risky nontraded assets are less willing to hold risky traded assets, resulting in idiosyncratic risk being priced for traded assets.

[5] The explanatory power of disclosure distance for jump risk is similar in both subsamples, suggesting differing exposure to jump risk between subsamples is not an alternative explanation for the differing pricing results between subsamples.

earnings announcements. As an additional test to control for elevated systematic risk at earnings announcements, I re-estimate CAPM betas using earnings announcement returns. While distant disclosing stocks do experience an upward shift in beta, controlling for this shift does not explain the positive abnormal returns to distant disclosing stocks. Estimated alphas are nearly identical to those used in the main tests.

Jump risk at earnings announcements is especially relevant in the current financial reporting environment. Recent work by Beaver et al. (2020) shows that the market response to earnings announcements is increasing over the period 2001-2016. The authors attribute this trend to managers making earnings announcements more informative to investors by issuing forecasts of earnings and providing financial statement line items on earnings announcement dates. In a similar vein, Shao et al. (2021) highlight that returns around fundamental information releases such as earnings announcements, 8-K filings, and management forecasts explain a greater proportion of annual stock returns in recent years.

This paper contributes to the disclosure literature by showing that there is a capital market consequence for the growing trend of staying silent in-between earnings announcements: elevated jump volatility at earnings announcements. This paper also contributes to the growing literature on the pricing of idiosyncratic risk by highlighting the disclosure environment as a source of idiosyncratic risk that investors price at earnings announcements. Lastly, this paper contributes to the literature on earnings announcement returns by showing that exposure to idiosyncratic risk is important for explaining announcement returns.

This paper proceeds as follows: Section 2 reviews the literature and develops hypotheses, Section 3 describes the data and sample selection, Section 4 describes the results, Section 5 concludes, and Section 6 contains an appendix with variable definitions.

2 Prior Literature and Hypothesis Development

2.1 Prior Literature

In this section, I summarize the main areas of research I build on: the literatures on disclosure timing, disclosure and asset prices, the pricing of idiosyncratic risk, and earnings announcement premium.

2.1.1 Disclosure Timing

Most of the literature on disclosure timing studies managers using timing strategically. Questions in the literature include whether managers prefer to disclose bad news early to avoid litigation risk (e.g., Skinner, 1994) or whether they prefer to hold on to it (e.g., Kothari et al., 2009; Zhu, 2016; Baginski et al., 2017). Other papers argue that managers target low periods of investor attention to disclose bad news (e.g., deHaan et al., 2015) or manipulate disclosure timing strategically to extract private benefits via insider trading (Niessner, 2015; Billings and Cedergren, 2015).

Recent literature explores disclosure timing not conditional on the information content of the underlying disclosure. Chapman et al. (2019) provide evidence that some managers attempt to prevent information overload by spreading out disclosures of events that occur on the same date, and these firms have lower volatility. Noh et al. (2021) identify firms that follow a pattern for scheduling earnings announcements (e.g., a pattern firm always announces Q4 earnings on the first Tuesday in February). "Calendar rotations" provide quasi-exogenous variation in the relative timing of earnings announcements for pattern firms. Pattern firms whose earnings announcements are moved up exogenously experience greater media attention and greater earnings announcement premium. My measure of disclosure distance is unaffected by calendar rotations because I scale the number of days since disclosure by the number of days since the last earnings announcement.[6]

2.1.2 Disclosure and Asset Prices

Increased disclosure is linked to cost of capital both theoretically and empirically. Increased information about a stock reduces estimation risk, resulting in a lower cost of capital for firms with increased disclosure (e.g., Barry and Brown, 1985; Lambert et al., 2007). Zhao (2017) finds a negative relation between information intensity (based on the number of 8-Ks filed) and future stock returns, and provides an estimation risk explanation for this result. Van Buskirk (2012) finds that retail firms that issue monthly sales figures have lower stock price impacts of earnings announcements, suggesting more frequent disclosure makes prices more informative. Similarly, McMullin et al. (2019) and Noh et al. (2019) find intraperiod 8-K filings are associated with increased intraperiod timeliness. Zhou and Zhou (2020) find lower returns around earnings announcements for firms that do not issue guidance, arguing that firms that do not issue guidance have poor fundamentals that are mispriced due to market frictions. Lennox and Park (2006) find that firms with ex ante higher earnings response coefficients are more likely to be guiders, suggesting firms provide guidance when EPS is a key determinant of firm value.

2.1.3 Pricing of Idiosyncratic Risk

Classical asset pricing theory posits that investors can diversify away idiosyncratic risk, therefore only systematic risk should be priced in equilibrium. Merton (1987), however, shows analytically that when a stock has low investor recognition (the number of investors who know about a stock), idiosyncratic risk can be priced. The intuition is that when few

[6] Noh et al. (2019) use calendar rotations to identify causal effects of the relative ordering of earnings announcements due to potential endogeneity associated with the timing of earnings news, such as delaying bad news and accelerating positive news, which would affect the relative ordering (e.g., Penman, 1987; Begley and Fischer, 1998; Bagnoli et al., 2002; Johnson and So, 2018b). This potential source of endogeneity is why I scale disclosure distance by the intraperiod length. That is, I don't distinguish between a silent firm that goes 80 days without announcing earnings and a silent firm that goes 100 days without announcing earnings.

investors know about a stock, some investors must take large positions in a stock, resulting in exposure to idiosyncratic risk that requires a risk premium to hold stocks with low investor recognition when idiosyncratic risk is high. Lehavy and Sloan (2008) provide empirical evidence consistent with the negative relation between changes in investor recognition and expected returns, and find the relation is strongest for stocks with high idiosyncratic risk, based on a market measure of idiosyncratic risk.

Expected idiosyncratic risk that maps into risk premium is difficult to measure empirically without using implied volatility from option prices. For example, stocks with high past idiosyncratic risk have lower expected returns, which is inconsistent with idiosyncratic risk being priced (Ang et al., 2006). Fu (2009) reconciles the negative relation between historic idiosyncratic risk and future returns established in Ang et al. (2006) by showing that past idiosyncratic risk is a poor proxy for expected idiosyncratic risk; when using a measure of expected idiosyncratic risk, there is a positive relation with future stock returns. Goyal and Santa-Clara (2003) find that the market portfolio earns higher returns when idiosyncratic risk of the underlying stocks is high, suggesting idiosyncratic risk is priced at the firm level. Kapadia and Zekhnini (2019) find both an ex post and ex ante jump risk premium in the cross section of equity returns using implied volatility as a forecasting variable for jumps. Bégin et al. (2019) also find that idiosyncratic jump risk is priced. Crucially, they show that the link between idiosyncratic risk and future returns is driven entirely by idiosyncratic jump volatility. That is, extreme idiosyncratic volatility drives the idiosyncratic risk premium. These studies are largely silent on the source of idiosyncratic risk because past idiosyncratic volatility and implied volatility are somewhat of a black box. They do not explore the disclosure environment as a source of idiosyncratic jump risk.

The rationale in Bégin et al. (2019) for idiosyncratic jump volatility commanding a risk premium is that it is difficult for investors to hedge discontinuous changes in stock price. Also arguing that investors price risks that are hard to hedge, Bollerslev et al. (2016) estimate "rough" betas using discontinuous market returns and find that systematic exposure to discontinuous market returns is priced, while exposure to continuous market returns is not priced. Amiram et al. (2019) echo this hard-to-hedge rationale, and find that market makers reduce liquidity for stocks with high jump volatility. They also find that firms with better information environments have lower jump volatility, but they do not study earnings announcements or examine investor pricing of jump volatility. Stoumbos (2019) finds that illiquidity rises as the next earnings announcement draws near and that intraperiod disclosure helps to counteract the rise in illiquidity.

Extreme downside idiosyncratic volatility (negative jumps) is the focus of the crash risk literature. This literature explores how reporting decisions of managers can lead to overvalued equity that corrects via a large decline in stock price (a crash). Some determinants of stock price crashes include opaque financial reporting (Hutton et al., 2009), high accounting accruals (Zhu, 2016), and non-GAAP reporting (Hsu et al., 2021). The literature on jump risk differs from the literature on crash risk in that it considers extreme price movements in both directions (both positive and negative jumps). Positive jumps are also of interest to investors with mean-variance preferences due to their negative effect on the Sharpe ratio, ceteris paribus.

2.1.4 Earnings Announcement Premium

The main finding in the EAP literature is that stocks expected to announce earnings have higher expected returns relative to stocks not expected to announce. Below, I summarize the literature on the EAP.

The EAP is documented in many studies beginning with Beaver (1968) and has attracted many explanations. Ball and Kothari (1991) show that CAPM betas increase around earnings announcements, but even after controlling for the upward shift in beta, abnormal returns still persist at earnings announcements. Frazzini and Lamont (2007) argue that announcements are attention-grabbing events, and upward price pressure from high trading volume explains the rise in price on earnings announcement dates. Cohen et al. (2007) argue that the EAP is due to mispricing arising from costly arbitrage. Barber et al. (2013) find the EAP is present globally and is strongest in countries with high idiosyncratic risk. Johnson and So (2018a) provide evidence that asymmetric liquidity provision by market makers drives the positive abnormal returns leading up to and at the earnings announcement due to increased costs of trading on negative news. Savor and Wilson (2016) offer a systematic risk explanation: announcing firm returns predict future aggregate earnings, making announcing firms systematically risky. Chan and Marsh (2021) find a positive relation between beta and stock returns on lead earnings announcement days (firms announcing early in the earnings announcement season) and a flat relation outside of those days. Johnson et al. (2020) find that earnings announcement month returns are increasing in managers' incentives to manage investor expectations, suggesting some managers "manufacture" positive earnings surprises. Heitz et al. (2020) find the EAP has attenuated in recent years following changing accounting regulation for filing form 8-K, where firms must disclose certain material events within four business days, updating investors between fiscal quarters. My paper emphasizes that despite increased 8-K filings economy wide as a result of regulatory change, there still exist firms that do not issue any 8-Ks intraperiod, and these firms earn positive abnormal returns on announcement dates. In a review of the literature on asset prices and recurring firm events, Hartzmark and Solomon (2018) conclude that "Risk-based explanations, particularly those relating to idiosyncratic risk, have the most potential for explaining announcement returns."

A related literature examines option prices and volatility around earnings announcement dates. Patell and Wolfson (1979, 1981) document that preannouncement option prices reflect anticipated volatility at earnings announcements. Barth and So (2014) argue that earnings announcements have non-diversifiable volatility risk and preannouncement options prices reflect this risk. Dubinsky et al. (2018) further corroborate that preannouncement option prices reflect earnings announcement risk, and the authors incorporate announcement risk into option pricing models. Overall, the literature examining option prices around earnings announcements suggests that option traders price volatility risk at earnings announcements, but these papers do not look at returns on the underlying equity around earnings announcements.

2.2 Hypotheses

I hypothesize that stocks with distant disclosure are more sensitive to new information relative to stocks with recent disclosure, resulting in an increased likelihood of a sharp change in stock price once investors learn information at earnings announcements.

H1: Jump risk at earnings announcements is increasing in disclosure distance.

Next, building on the literature that shows exposure to idiosyncratic jump risk is priced, I hypothesize that investors demand a jump risk premium for holding stocks with distant disclosure at earnings announcements, where the risk premium is realized once firms announce earnings.

H2: Earnings announcement returns are increasing in disclosure distance.

To distinguish between the idiosyncratic risk and systematic risk explanations for the abnormal returns to distant disclosing stocks, the theory in Merton (1987) would suggest a cross-sectional test based on a proxy for investor recognition. As investor recognition increases, the idiosyncratic jump risk premium should decrease due to increased risk sharing among investors.

H3: The positive relation between earnings announcement returns and disclosure distance attenuates as investor recognition increases.

3 Data and Measurement

3.1 Data Sources

I obtain daily stock returns and daily trading volume from the Center for Research in Security Prices (CRSP), financial statement data and earnings announcement dates from Compustat, management forecasts, analyst coverage, and earnings announcement dates from Institutional Brokers Estimate System (I/B/E/S), 13-F filing data from Thompson Reuters (using WRDS Thomson Reuters Institutional (13-F) Holdings - Stock Ownership Summary File), form 8-K filing dates from SEC EDGAR, and factor returns and risk-free rate data from Kenneth French's website.

3.2 Measuring Disclosure Distance

$Disclosure\,Distance_q$ is the elapsed time in calendar days since the last material disclosure ($Days\,Since\,Disclosure_q$) scaled by the intraperiod length ($Days\,Since\,EADate_{q-1}$). Scaling by the intraperiod length between adjacent earnings announcements neutralizes factors such as late/early reporting which can correlate with the direction of earnings news (e.g., Penman, 1987; Begley and Fischer, 1998; Bagnoli et al., 2002; Johnson and So, 2018b). This measure ranges from (0, 1] where a low value represents a firm with recent disclosure and a value of one represents a firm with distant disclosure.

$$\begin{aligned} Disclosure\,Distance_q &= \frac{EADate_q - MAX(EADate_{q-1}, 8K\,DisclosureDate_{q-1,q})}{EADate_q - EADate_{q-1}} \\ &= \frac{Days\,Since\,Disclosure_q}{Days\,Since\,EADate_{q-1}} \end{aligned} \tag{1}$$

Exhibit 1 illustrates the measurement of $Disclosure\,Distance_q$ via a timeline plotting the time interval between adjacent earnings announcements. $EADate_q$ ($\mathbf{EA}_q$) is the focal earnings announcement studied and $EADate_{q-1}$ ($\mathbf{EA}_{q-1}$) is the earnings announcement one quarter prior. To calculate disclosure distance at each $\mathbf{EA}_q$, first, I look back in time to identify the most recent material disclosure $(MAX(EADate_{q-1}, 8KDisclosureDate_{q-1,q}))$. Second, I calculate the number of days between $\mathbf{EA}_q$ and the most recent disclosure $(Days\,Since\,Disclosure_q)$. Third, I calculate the number of days between $\mathbf{EA}_q$ and $\mathbf{EA}_{q-1}$ $(Days\,Since\,EADate_{q-1})$. Finally, I calculate $Disclosure\,Distance_q$ as the ratio of $Days\,Since\,Disclosure_q$ to $Days\,Since\,EADate_{q-1}$. In portfolio tests, I sort stocks into three portfolios: recent, mid, and distant disclosure portfolios based on the cross-sectional distribution of disclosure distance each quarter.

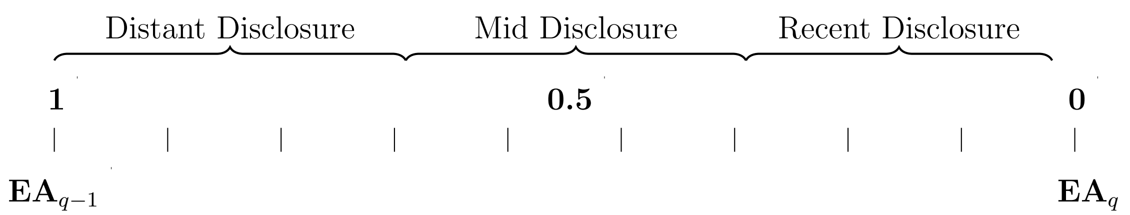


Exhibit 1: Measuring Disclosure Distance

I use 8-K filing dates to identify material intraperiod disclosure dates. SEC regulation requires companies to file 8-Ks following material voluntary disclosure events such as management guidance, and mandatory disclosure events such as entry into a material agreement. This regulatory requirement makes 8-K filing dates an ideal source for identifying material intraperiod disclosures. As noted by Campbell et al. (2021), other corporate disclosures unaccompanied by 8-K filings present a challenge for researchers in determining managers' beliefs about disclosure materiality. I acknowledge that managers have some discretion in determining disclosure materiality thresholds for filing 8-Ks, and not capturing value relevant disclosures unaccompanied by 8-Ks is a limitation of the measure.

For data quality, I exclude 8-Ks where filing dates precede report (event) dates, and 8-Ks filed more than 10 days after the report date. I also exclude amended 8-Ks and earnings 8-Ks (item 2.02) when calculating disclosure distance. Firms must have nonmissing earnings announcement dates in either Compustat or I/B/E/S for earnings announcements for fiscal quarters q and $q-1$ to have a valid measure of disclosure distance. I drop observations where the intraperiod length (the number of days between adjacent earnings announcements q and $q-1$) is outside the range of 60-120 days to eliminate uncommon observations.

3.3 Defining Jumps

I follow Kapadia and Zekhnini (2019) in defining idiosyncratic jump days, idiosyncratic stock returns, and idiosyncratic volatility.

$$\text{Jump}_{it} = \begin{cases} 1 & \text{if } |r_{it}| > 3\sigma_{it} \\ 0 & \text{else} \end{cases} \tag{2}$$

Idiosyncratic stock returns, r_{it}, are estimated each day out of sample relative to a Carhart (1997) four-factor model (4F) with factor loadings estimated in a rolling 120 day window from trading days t-150 to t-31. r^e_{it} is the daily stock return in excess of the risk free rate, $\hat{\beta}'^{4F}_{it-150,it-31}$ is a vector of factor loadings and F^{4F}_t is a vector of factor returns (MKT, SMB, HML, UMD).[7] Factor loadings are winsorized at the 5% tails of the daily cross-sectional distribution.

$$r_{it} = r^e_{it} - \hat{\beta}'^{4F}_{it-150,it-31} \times F^{4F}_t \tag{3}$$

Conditional idiosyncratic volatility, σ_{it}, is estimated via an exponentially weighted moving average model using r_{it} in (3) with λ=0.94.

$$\sigma_{it} = \sqrt{(1-\lambda)\sum_{s=1}^{150} \lambda^s (r_{it-s})^2} \tag{4}$$

I create 3 variables to capture idiosyncratic jump risk:

[7] MKT is the market factor, SMB is the size factor, HML is the value factor, and UMD is the momentum factor.

1. $\text{Jump}_{0|1} = 1$ if there is a jump in stock price on earnings announcement day zero or day one, 0 else.

2. $\text{Jump}^{+}_{0|1} = 1$ if there is a positive jump in stock price on earnings announcement day zero or day one, 0 else.

3. $\text{Jump}^{-}_{0|1} = 1$ if there is a negative jump in stock price on earnings announcement day zero or day one, 0 else.

3.4 Defining Control Variables

Market Equity_q is the natural logarithm of the market value of equity at fiscal quarter q end. $\text{Book-to-market}_{q-1}$ is the natural logarithm of the book-to-market ratio calculated using $q-1$ book values and market values (with negative book values excluded from the sample).[8] $\text{ROA}_{q-4,q-1}$ is operating income after depreciation summed over the trailing four quarters deflated by $q-1$ total assets. SUE_q is $\frac{EPSPX_q - EPSPX_{q-4}}{Price_q}$ where EPSPX is basic earnings per share excluding extraordinary items and Price_q is the share price at the end of fiscal quarter q (using split-adjusted EPS and Price). R&D $\text{Expense}_{q-4,q-1}$ is research and development expense summed over the trailing four quarters deflated by $q-1$ total assets (set to zero if missing). Financial Leverage_{q-1} is $q-1$ total debt deflated by total assets (set to zero if missing). Net External Financing_q is calculated following Bradshaw et al. (2006) as sale of common and preferred stock – purchase of common and preferred stock – cash dividends + long-term debt issuance – long-term debt reduction + changes in current debt (with values set to zero if missing, all scaled by total assets). Analyst Coverage_q is the number of analysts issuing at least one EPS forecast for fiscal quarter q no older than 90 days at the earnings announcement (with missing values set equal to zero). EPS Guidance_q is an indicator variable for firms that issue at least one EPS forecast for fiscal quarter q.

[8] Book Equity is calculated using the method in Davis et al. (2000). Book Equity = Equity - Preferred Stock. Equity is the first nonmissing value in the set: {SEQQ, CEQQ+PSTKQ, ATQ-LTQ}. Preferred Stock is the first nonmissing value in the set: {PSTKRQ, PSTKQ, 0}.

$r_{-1,-1}$ is the abnormal stock return one day prior to the earnings announcement. $r_{-20,-2}$ is the day -20 to -2 compounded abnormal stock return. Idiosyncratic Volatility$_{-150,-1}$ is the natural logarithm of percent conditional idiosyncratic volatility, $\ln(\sigma_{it} \times 100)$, estimated using Equation (4) in Section 3.3. Abnormal stock returns are calculated relative to the Carhart (1997) as in Equation (3).

Beta$_{(q-1,q)}$ is the slope from a regression of daily stock returns on daily market returns estimated over the trading days between $q-1$ and q earnings announcements. Synchronicity$_{(q-1,q)}$ is the natural logarithm of $\frac{R^2}{1-R^2}$ using the R^2 from the market model used to calculate Beta$_{(q-1,q)}$. ln(Illiquidity$_{(q-1,q)}$) is the natural logarithm of the average daily price impact of trades, $\frac{|open-to-close-return|}{\$ Trading\, Volume}$, calculated over the intraperiod interval $(q-1, q)$ (Amihud, 2002; Barardehi et al., 2021). ln(Avg. Trading Volume$_{(q-1,q)}$) is the natural logarithm of the average dollar trading volume calculated over the intraperiod interval $(q-1,\, q)$.

3.5 Earnings Announcement Dates

When Compustat and I/B/E/S announcement dates differ, I use the earlier earnings announcement date because Johnson and So (2018a) find the earlier date to be more accurate on average. I increment after-hours earnings announcements by one trading day so that day 0 represents the market reaction to the announcement for after-hours announcements. If the I/B/E/S time is missing, I use the earnings 8-K filing time to identify after hours filings if the report date, SEC acceptance date, and MIN(Compustat date, I/B/E/S date) agree.

3.6 Earnings Announcement Returns

To both capture market reactions to any unsuccessfully identified after hours earnings announcements (e.g., Berkman and Truong, 2009) and to avoid potential microstructure frictions that confound earnings announcement returns (e.g., Johnson and So, 2018a), I compound day zero and day one returns in my tests. I calculate earnings announcement returns, $r_{0,1}$, as the compounded day zero and day one idiosyncratic return with daily idiosyncratic returns computed as in Equation (3).

3.7 Sample Selection

My sample spans earnings announcements from January 2006 to December 2019. The beginning of my sample starts in 2006 because it is the second complete year of the current 8-K regulatory regime, and I require a lagged measure of disclosure distance in my tests.[9] In my sample, I include common shares (CRSP shrcd of 10 or 11) of stocks listed on NYSE, Amex, or Nasdaq (CRSP exchcd of 1, 2, or 3). Lastly, to maintain a constant sample across tables, I require nonmissing values of $r_{0,1}$, $r_{-1,-1}$, $r_{-20,-2}$, Market Equity$_q$, ln(Book-to-market$_{q-1}$), ROA$_{q-4,q-1}$, SUE$_q$, Idiosyncratic Volatility$_{-150,-1}$, Beta$_{(q-1,q)}$, Synchronicity$_{(q-1,q)}$, ln(Illiquidity$_{(q-1,q)}$, and ln(Avg. Trading Volume$_{(q-1,q)}$), and Δ Number of 13-F Filers$_{q-1,q}$. I set the following variables equal to zero if missing: R&D Expense$_{q-4,q-1}$, Financial Leverage$_{q-1}$, Net External Financing$_q$, and Analyst Coverage$_q$. I winsorize non-return continuous independent variables at the 1% tails of the cross-sectional distribution.

4 Results

4.1 Descriptive Statistics

Figure 1 shows the distribution of all 8-K filings over the intraperiod interval between adjacent earnings announcements. The bar at -1 represents 8-Ks filed on EA$_{q-1}$ and the bar at 0 represents 8-Ks filed on EA$_q$. Firms late to file their $q-1$ earnings announcement 8-K

[9] I begin my sample in the current 8-K reporting regime for several reasons. First, limiting the sample increases the relevance of this study for the current financial reporting environment. Second, 8-K disclosures are timelier in the new regime with firms having four days to file most intraperiod 8-Ks compared to deadlines ranging from five to fifteen days in the earlier regime with filing deadlines depending on the 8-K item type (Lerman and Livnat, 2010). Lastly, the current 8-K regime postdates both Regulation Fair Disclosure and the Global Analyst Research Settlement, reducing concerns that firms selectively disclose information to investors or analysts. Further, firms must file an 8-K if a private meeting accidentally yields a material disclosure. See Lerman and Livnat (2010) and He and Plumlee (2020) for a thorough background on the current 8-K regime.

are responsible for the uptick of filings just after earnings announcement $q-1$.[10] This figure illustrates that firms file non-earnings 8-Ks almost uniformly across the intraperiod.

Figure 2 plots the distribution of the number of non-earnings intraperiod 8-Ks filed each firm-quarter. Approximately 20% of firm-quarters do not have any 8-Ks filed between earnings announcements (distant disclosing firms), while the most common filing frequency for firms is one 8-K filed between earnings announcements.

Figure 3 plots the distribution of disclosure distance. Outside of the intraperiod nondisclosure bin at 1, the distribution of disclosure distance is nearly uniform, mirroring the general pattern of all 8-Ks filed in Figure 1.

Figure 4 shows the distributional statistics for disclosure distance over time. Panel A plots median disclosure distance each year, while Panel B plots the median, 25th percentile, and the 75th percentile. All distributions point to disclosure distance increasing over time, reflecting the growing trend in disclosure bundling at earnings announcements where firms issue many disclosures on earnings announcement dates rather than spreading them out over time (e.g., Rogers and Van Buskirk, 2013; Arif et al., 2019; Beaver et al., 2020).

Table 1 presents descriptive statistics. Panel A shows the time series average of cross-sectional distributions. Disclosure distance has a mean of .532 and a standard deviation of .346. The average realized earnings announcement jump rate in this sample is .376, meaning 37.6% of stocks jump on earnings announcement dates. Similar to Kapadia and Zekhnini (2019), I also find that positive jumps are more likely to occur than negative jumps, reflecting the positively skewed distribution of stock returns.

Panel B shows the time series average of cross-sectional correlations. Pearson correlations are above the diagonal of 1's and Spearman correlations are below the diagonal. Disclosure distance is positively correlated with ROA, R&D, SUE, illiquidity, idiosyncratic volatility, earnings announcement returns, and jumps. Disclosure distance is negatively correlated with market equity, financial leverage, net external financing, market beta, average trading volume,

[10] In untabulated analysis, the uptick disappears when excluding late filed earnings 8-Ks (item 2.02 where the SEC acceptance date is greater than the report date).

EPS guidance, and analyst coverage. The positive correlations between disclosure distance and both illiquidity and idiosyncratic volatility, and the negative correlation with trading volume agree with the findings in Stoumbos (2019) who finds illiquidity increases gradually over the intraperiod, but firms who file 8-Ks during the intraperiod have a less steep increase in illiquidity.

4.2 Determinants of Disclosure Distance

What types of firms are distant disclosers? Verrecchia (1983) would suggest that proprietary cost of disclosure would make distant disclosure an attractive option for firms with high proprietary cost of disclosure. Heinle et al. (2020) surveys the literature on proprietary cost of disclosure and finds that many empirical studies proxy for proprietary cost of disclosure using profitability (e.g., Dedman and Lennox, 2009), R&D intensity (e.g., Ellis et al., 2012), and the market-to-book ratio (e.g., Kwak et al., 2012). The predicted relation between these variables and disclosure distance under the proprietary cost hypothesis would be positive for profitability and R&D expense, and negative for book-to-market (i.e., growth firms have high proprietary costs of disclosure).

Firms actively raising capital and firms highly reliant on external financing (highly leveraged firms) have incentives to issue more disclosures in order to reduce information asymmetry with investors (e.g., Frankel et al., 1995), resulting in a negative predicted relation between disclosure distance and both financial leverage and net external financing.

Kajüter et al. (2018) find that compliance cost of disclosure is a deterrent for small firms, which would lead to a negative prediction for market equity. Small firms also tend to have no or low analyst coverage, which leads to the same negative prediction for analyst coverage.

Skinner (1994) documents that firms pre-announce bad news due to litigation risk concerns and Marinovic and Varas (2016) model that litigation risk crowds out positive disclosures. Litigation risk would predict a positive relation between earnings surprise (SUE) and disclosure distance because firms with positive earnings news could remain quiet while firms with bad news have litigation risk-induced incentives to announce bad news in a timely manner.

Drawing on these determinants of disclosure from prior literature, in Table 2, I run a Tobit regression of disclosure distance on the aforementioned explanatory variables. I run Tobit regressions because disclosure distance is bounded between zero and one and Tobit models are appropriate for bounded dependent variables. In column 1, I regress disclosure distance on variables publicly available ahead of earnings announcements: market equity, analyst coverage, EPS guidance, book-to-market, ROA, R&D expense, and financial leverage. The estimates are consistent with firms with high proprietary cost of disclosure being distant disclosing stocks, while stocks with reliance on external financing and larger stocks with more analyst coverage being recent disclosers. In column 2, I augment the model with information available after earnings announcements (net external financing$_q$ and SUE$_q$) to examine the contemporaneous external financing link and the theory of litigation risk crowding out positive disclosures. I find evidence consistent with both firms with bad earnings news and firms actively raising capital issuing intraperiod disclosures, reducing their disclosure distance. EPS guidance has a weak positive relation with disclosure distance when controlling for size. This relation is in line with Chapman et al. (2019) who find guiders are less likely to smooth disclosures.

In column 3, I examine the persistence of disclosure distance by regressing quarter q disclosure distance on quarter $q-4$ disclosure distance. Disclosure distance has positive persistence, but its persistence is less than one with a coefficient of 0.331, suggesting it is not a firm fixed disclosure characteristic. Column 4 augments the model from column 2 with lagged disclosure distance and the relations remain the same between disclosure distance and the explanatory variables from column 2. I include these variables in my main tests to control for the determinants of disclosure distance. I classify control variables observable ahead of earnings announcements as ex ante controls, and I classify variables disclosed during the earnings announcement window (SUE, net external financing) as contemporaneous controls.

4.3 Earnings Announcement Jump Risk

Next, I test H1 that examines the link between disclosure distance and idiosyncratic jump risk in Table 3. Panel A shows average idiosyncratic jump rates for disclosure distance sorted portfolios. I sort stocks into three portfolios each quarter based on the distribution of disclosure distance for that quarter. Quarters are based on earnings announcement calendar quarters (e.g., earnings announcements in January 20YY – March 20YY constitute a quarter). Table 3, Panel A provides univariate evidence in support of H1. Distant disclosing firms have higher jump risk at earnings announcements than recent disclosing firms and this relation is statistically significant. The spread is wider for positive jumps compared to negative jumps, likely due to litigation risk concerns discouraging systematic hoarding of bad news that would invite a negative jump at earnings announcements.

Table 3, Panel B demonstrates robustness to controlling for other firm characteristics in logit regressions. I control for the determinants of disclosure distance from Table 2 with the substitution of |SUE| for SUE in order to appropriately model volatility. Additionally, I include controls for market variables calculated over the intraperiod: Beta, Synchronicity, Illiquidity, Avg. Trading Volume, $r_{-20,-2}$, and $r_{-1,-1}$. These regressions also include time indicators to control for quarter fixed effects.

The positive coefficient for EPS Guidance is consistent with prior literature that guiding firms tend to have higher volatility. Billings et al. (2015) provide evidence that managers initiate guidance in response to volatility run ups, arguing that it is not guidance per se that increases volatility. However, guiding firms predominantly bundle guidance with earnings announcements (e.g., Rogers and Van Buskirk, 2013), which could increase the likelihood of a jump.

The results in Table 3 provide evidence consistent with H1; distant disclosing stocks have elevated idiosyncratic jump risk at earnings announcements. Figure 5 illustrates the Table 3 results in event time, plotting the cumulative proportion of stocks with at least one jump for each disclosure distance sorted portfolio. Prior to earnings announcements, the three portfolios move in unison with the recent disclosing portfolio having the highest jump rate, but once the announcement occurs, the distant disclosing portfolio has the highest jump rate, consistent with distant disclosing stocks being more sensitive to earnings news.

4.4 Earnings Announcement Stock Returns

Next, I test whether investors price this risk. If investors price jump risk for distant disclosing stocks, these stocks should earn positive abnormal returns at earnings announcements. Each quarter, I sort stocks into three portfolios based on their disclosure distance calculated at each earnings announcement. Table 4, Panel A presents Carhart (1997) alphas for disclosure distance sorted portfolios. Distant disclosing stocks earn alpha of 10.5 basis points at earnings announcements.

Figure 6 plots the cumulative abnormal returns to disclosure distance sorted portfolios in event time for the eleven trading days centered on the earnings announcement date. Ahead of the announcement, prices move upward, consistent with market makers providing liquidity asymmetrically ahead of earnings announcements (Johnson and So, 2018a). Once firms announce earnings, distant disclosing stocks earn positive abnormal returns that do not reverse, in contrast to the sharp reversal of the pre-announcement return run up for recent disclosing stocks. Johnson and So (2018a) also document an unconditional return reversal after earnings announcements.

Figure 7 combines the insights from Figures 5 and 6, plotting only the distant minus recent difference in stock returns and jump rates. Ahead of earnings announcements, the difference is insignificant, but once earnings are announced, the cumulative abnormal returns and cumulative jump rates move in tandem, providing further evidence that the abnormal returns are compensation for jump risk at earnings announcements.

Table 4, Panel B presents panel regressions of abnormal earnings announcement returns, $r_{0,1}$, on explanatory variables. Disclosure distance remains a significant predictor of earnings announcement returns after controlling for other firm characteristics. Column 1 presents a univariate regression of returns on disclosure distance. Column 2 adds quarter fixed effects. Column 3 is a regression with disclosure distance lagged four quarters. Lagged disclosure distance is insignificant, suggesting the positive earnings announcement returns are not driven by firms that routinely remain silent. Column 4 adds back current period disclosure distance and shows it is robust to controlling for lagged disclosure distance, providing further evidence it is abnormal disclosure distance that drives the risk premium, and not a sticky disclosure characteristic. Next, in column 5, I add the ex ante determinants of disclosure distance from Table 2 as controls. Additionally, I control for market variables including $r_{-20,-2}$, $r_{-1,-1}$, illiquidity, average trading volume, synchronicity, idiosyncratic volatility, and beta. The results are robust to including these variables. Next, in column 6, I add information not available prior to the announcement: SUE and Net External Financing. The estimate on disclosure distance weakens yet remains statistically significant. Lastly, in column 7, I substitute industry $\times$ quarter fixed effects in place of quarter fixed effects to control for any Fama-French 12 industry-time invariant characteristics. The results remain similar to those in column 6. The results in Table 4 provide evidence consistent with H2 that investors price disclosure distance as risk at earnings announcements.

4.5 Investor Recognition and Idiosyncratic Risk

Table 5 draws on Merton (1987)'s investor recognition theory to help distinguish between the idiosyncratic risk and the systematic risk explanation for the positive abnormal returns to distant disclosing stocks. Under an idiosyncratic risk explanation, the returns to distant disclosing stocks should be concentrated in stocks with low investor recognition. To test this, I partition the sample into low and high changes in investor recognition subsamples based on a cross-sectional median split on the change in the number of 13-F filing institutions that hold the stock from $q-1$ to q, following Lehavy and Sloan (2008). Lehavy and Sloan (2008) note that examining changes in investor recognition, instead of levels, creates a more powerful test of the theory in Merton (1987) due to it reducing omitted variable problems that are difficult to control for in the cross section.[11]

The number of observations in each subsample is not equal because there is no change in the number of institutional owners for $\approx 7\%$ of firm-quarters. I lag institutional ownership data by two months from the report date to ensure public availability of data due to the 45 day reporting deadline for filing form 13-F. That is, ownership data with a report date of 12/31/Y0 would be available for earnings announcements beginning in 03/01/Y1.

Table 5, Panel A presents the earnings announcement return results for the low investor recognition subsample. H3 predicts disclosure distance has the strongest explanatory power for earnings announcement returns when investor recognition is low. Consistent with H3, disclosure distance has stronger explanatory power for stock returns in the low changes in investor recognition subsample. In the high changes in investor recognition subsample in Panel B, disclosure distance has almost no explanatory power for earnings announcement stock returns. This is consistent with Merton (1987)'s model where the sensitivity of the positive relation between expected returns and idiosyncratic risk decreases as investor recognition increases.

4.6 Robustness Tests

4.6.1 Investor Recognition and Jump Risk

An alternative explanation for disclosure distance's stronger explanatory power for stock returns in the low changes in investor recognition cross section could be that jump risk is higher for stocks with low changes in investor recognition. Under this explanation, the

[11] Another determinant of the sensitivity of expected returns to idiosyncratic risk in Merton's model is the size of the firm. In Merton's model, the positive relation between idiosyncratic risk and expected returns is increasing in firm size, ceteris paribus, while the positive relation between idiosyncratic risk and expected returns is decreasing in investor recognition, ceteris paribus. A cross-sectional test based on the level of investor recognition also partitions on the size of the firm due to the positive correlation between investor recognition and firm size. Therefore, a cross-sectional cut on the level of investor recognition does not yield a powerful test for examining pricing of idiosyncratic risk due to the offsetting interactive effects in equation (31.a) in Merton (1987) arising from the positive correlation between firm size and investor recognition.

increased exposure to idiosyncratic risk explains the stronger return results for the low changes in investor recognition sample, not the investor recognition hypothesis. To examine this explanation, I re-estimate the logit regressions from Table 3 using the same investor recognition cross-sectional cut employed in Table 5. Table 6, Panel A estimates the relation between jump risk and disclosure distance for stocks with low changes in investor recognition and Panel B estimates the same relation for stocks with high changes in investor recognition. Comparing the estimates in Panels A and B reveals that the relation between jump risk and disclosure distance is similar for both changes in investor recognition subsamples. In the most stringent specification, column 7, the coefficient on Disclosure Distance_q is 0.250 in Panel A and 0.276 in Panel B. Distant disclosing stocks with high changes in investor recognition have similar, yet slightly higher jump risk. This similarity in jump risk between subsamples provides evidence that differing exposure to jump risk is not a compelling alternative explanation for the differing stock return results between subsamples in Table 5.

4.6.2 Controlling for Beta-shifts at Earnings Announcements

Several papers document elevated systematic risk at earnings announcement dates (e.g., Ball and Kothari, 1991; Patton and Verardo, 2012; Savor and Wilson, 2016; Chan and Marsh, 2021). In the main tests, the risk factor adjustment I use is relative to factor loadings estimated out of sample. To address the concern that the abnormal returns are due to incomplete risk adjustment as a result of beta-shifts at earnings announcements, I estimate pooled CAPM factor loadings using earnings announcement returns for each disclosure distance sorted portfolio in Table 7.

The first row of Table 7 shows the stock return in excess of the risk-free rate for a baseline magnitude (Excess $\text{Return}_{0,1}$). Distant disclosing stocks earn excess returns of 14.6 basis points over announcement days [0,1]. Next, I regress excess $\text{returns}_{0,1}$ on contemporaneous market $\text{returns}_{0,1}$ in a pooled regression across all earnings announcements in the sample for each disclosure portfolio. Using the Pooled CAPM Beta as a measure of announcement exposure to systematic risk, the Pooled CAPM Adjusted $\text{Return}_{0,1}$ decreases to 10.0 basis points, and remains as statistically significant as the excess return. This magnitude is nearly identical to the 10.5 basis point Carhart (1997) alpha estimated in Table 2. Comparing the average Out-of-Sample CAPM beta estimated over the intraperiod interval to the Pooled CAPM beta estimated using earnings announcement returns, the beta increases from 1.003 to 1.042 for distant disclosing stocks. While beta increases, it does not increase by enough to explain the positive abnormal returns.

5 Conclusion

This paper provides empirical evidence consistent with elapsed periods of nondisclosure between mandatory reporting periods increasing idiosyncratic jump risk at earnings announcements. Distant disclosing stocks earn a positive alpha at earnings announcements, suggesting investors anticipate elevated idiosyncratic jump risk for distant disclosing stocks and demand risk premium to hold these stocks at earnings announcements.

These findings have implications for investors and managers. For investors, the higher earnings announcement returns for distant disclosing stocks illustrate how short-term discount rates can vary as a function of the elapsed time since disclosure. This suggests that investors consider the disclosure environment when choosing short-term discount rates for stock valuation. Risk-averse individual investors may want to avoid entering into a position in distant disclosing stocks ahead of earnings announcements due to their high jump risk.

For managers, this paper highlights increased jump risk as a capital market consequence for the recent trend in disclosure "bundling" (e.g., Rogers and Van Buskirk, 2013; Arif et al., 2019; Beaver et al., 2020) where firms release many disclosure items at earnings announcements, rather than spreading them out over time. This disclosure policy can lead to a more "jumpy" information environment, increasing jump risk for investors. Managers trade off increased disclosure against other factors, so more frequent disclosure may not be optimal for all firms despite potential capital market benefits.

References

Amihud, Y., 2002. Illiquidity and stock returns: cross-section and time-series effects. Journal of Financial Markets 5, 31–56.

Amiram, D., Cserna, B., Kalay, A., Levy, A., 2019. The information environment, volatility structure, and liquidity Columbia Business School Research Paper No. 15-62, Available at SSRN: https://ssrn.com/abstract=2618424.

Ang, A., Hodrick, R., Xing, Y., Zhang, X., 2006. The cross-section of volatility and expected returns. Journal of Finance 61, 259–99.

Arif, S., Marshall, N. T., Schroeder, J. H., Yohn, T. L., 2019. A growing disparity in earnings disclosure mechanisms: The rise of concurrently released earnings announcements and 10-ks. Journal of Accounting and Economics 68.

Baginski, S. P., Campbell, J. L., Hinson, L. A., Koo, D. S., 2017. Do Career Concerns Affect the Delay of Bad News Disclosure? The Accounting Review 93, 61–95.

Bagnoli, M., Kross, W., Watts, S. G., 2002. The information in management's expected earnings report date: A day late, a penny short. Journal of Accounting Research 40, 1275–1296.

Balakrishnan, K., Billings, M. B., Kelly, B., Ljungqvist, A., 2014. Shaping liquidity: On the causal effects of voluntary disclosure. The Journal of Finance 69, 2237–2278.

Ball, R., Kothari, S. P., 1991. Security returns around earnings announcements. The Accounting Review 66, 718–738.

Barardehi, Y. H., Bernhardt, D., Ruchti, T. G., Weidenmier, M., 2021. The Night and Day of Amihud's (2002) Liquidity Measure. The Review of Asset Pricing Studies 11, 269–308.

Barber, B., George, E. D., Lehavy, R., Trueman., B., 2013. The earnings announcement premium around the globe. Journal of Financial Economics 108, 118–138.

Barber, B., Odean, T., 2008. All that glitters: the effect of attention and news on the buying behavior of individual and institutional investors. Review of Financial Studies 21(2), 785–818.

Barry, C. B., Brown, S. J., 1985. Differential information and security market equilibrium. Journal of Financial and Quantitative Analysis 20, 407–422.

Barth, M. E., So, E. C., 2014. Non-diversifiable volatility risk and risk premiums at earnings announcements. The Accounting Review 89, 1579–1607.

Beaver, W., 1968. The information content of annual earnings announcements. Journal of Accounting Research 6, 67–92.

Beaver, W. H., McNichols, M. F., Wang, Z. Z., 2020. Increased market response to earnings announcements in the 21st century: An empirical investigation. Journal of Accounting and Economics 69, 101244.

Begley, J., Fischer, P. E., 1998. Is there information in an earnings announcement delay? Review of Accounting Studies 3, 347–363.

Berkman, H., Truong, C., 2009. Event day 0? after-hours earnings announcements. Journal of Accounting Research 47, 71–103.

Billings, M. B., Cedergren, M. C., 2015. Strategic silence, insider selling and litigation risk. Journal of Accounting and Economics 59, 119–142.

Billings, M. B., Jennings, R., Lev, B., 2015. On guidance and volatility. Journal of Accounting and Economics 60, 161–180.

Bodnaruk, A., Ostberg, P., 2009. Does investor recognition predict returns? Journal of Financial Economics 91, 208–226.

Bollerslev, T., Li, S. Z., Todorov, V., 2016. Roughing up beta: Continuous versus discontinuous betas and the cross section of expected stock returns. Journal of Financial Economics 120, 464–490.

Bond, P., Zeng, Y., 2021. Silence is safest: Information disclosure when the audiences preferences are uncertain. Journal of Financial Economics .

Bradshaw, M., Richardson, S., Sloan., R., 2006. The relation between corporate financing activities, analysts' forecasts and stock returns. Journal of Accounting and Economics p. 53–85.

Bégin, J.-F., Dorion, C., Gauthier, G., 2019. Idiosyncratic Jump Risk Matters: Evidence from Equity Returns and Options. The Review of Financial Studies 33, 155–211.

Campbell, J. L., Twedt, B. J., Whipple, B. C., 2021. Trading prior to the disclosure of material information: Evidence from regulation fair disclosure form 8-ks. Contemporary Accounting Research 38, 412–442.

Carhart, M. M., 1997. On persistence in mutual fund performance. The Journal of Finance 52, 57–82.

Chan, K. F., Marsh, T., 2021. Asset pricing on earnings announcement days. Journal of Financial Economics .

Chapman, K. L., Reiter, N., White, H. D., Williams, C. D., 2019. Information overload and disclosure smoothing. Review of Accounting Studies 24, 1486–1522.

Chen, S., Matsumoto, D., Rajgopal, S., 2011. Is silence golden? an empirical analysis of firms that stop giving quarterly earnings guidance. Journal of Accounting and Economics 51, 134–150.

Chen, Y., Ng, J., Yang, X., 2021. Talk less, learn more: Strategic disclosure in response to managerial learning from the options market. Journal of Accounting Research Forthcoming.

Cohen, D. A., Dey, A., Lys, T. Z., Sunder, S. V., 2007. Earnings announcement premia and the limits to arbitrage. Journal of Accounting and Economics 43, 153 – 180.

Davis, J. L., Fama, E. F., French, K. R., 2000. Characteristics, covariances, and average returns: 1929 to 1997. Journal of Finance 55, 389–406.

Dedman, E., Lennox, C., 2009. Perceived competition, profitability and the withholding of information about sales and the cost of sales. Journal of Accounting and Economics 48, 210–230.

deHaan, E., Shevlin, T., Thornock, J., 2015. Market (in)attention and the strategic scheduling and timing of earnings announcements. Journal of Accounting and Economics 60, 36–55.

Diamond, D. W., Verrecchia, R. E., 1991. Disclosure, liquidity, and the cost of capital. The Journal of Finance 46, 1325–1359.

Dubinsky, A., Johannes, M., Kaeck, A., Seeger, N. J., 2018. Option Pricing of Earnings Announcement Risks. The Review of Financial Studies 32, 646–687.

Dye, R. A., 1985. Disclosure of nonproprietary information. Journal of Accounting Research 23, 123–145.

Ellis, J. A., Fee, C. E., Thomas, S. E., 2012. Proprietary costs and the disclosure of information about customers. Journal of Accounting Research 50, 685–727.

Frankel, R., McNichols, M., Wilson, G. P., 1995. Discretionary disclosure and external financing. The Accounting Review 70, 135–150.

Frazzini, A., Lamont, O., 2007. The earnings announcement premium and trading volume. Working Paper. .

Fu, F., 2009. Idiosyncratic risk and the cross-section of expected stock returns. Journal of Financial Economics 91, 24–37.

Goyal, A., Santa-Clara, P., 2003. Idiosyncratic risk matters! The Journal of Finance 58, 975–1007.

Guttman, I., Kremer, I., Skrzypacz, A., 2014. Not only what but also when: A theory of dynamic voluntary disclosure. American Economic Review 104, 2400–2420.

Hartzmark, S. M., Solomon, D. H., 2018. Recurring firm events and predictable returns: The within-firm time series. Annual Review of Financial Economics 10, 499–517.

He, J., Plumlee, M. A., 2020. Measuring disclosure using 8-k filings. Review of Accounting Studies 25, 903–962.

Heflin, F. L., Shaw, K. W., Wild, J. J., 2005. Disclosure policy and market liquidity: Impact of depth quotes and order sizes. Contemporary Accounting Research 22, 829–865.

Heinle, M. S., Samuels, D., Taylor, D. J., 2020. Proprietary costs and disclosure substitution: Theory and empirical evidence. Available at SSRN: https://ssrn.com/abstract=3173664 or http://dx.doi.org/10.2139/ssrn.3173664 .

Heitz, A. R., Narayanamoorthy, G., Zekhnini, M., 2020. The disappearing earnings announcement premium. Working Paper .

Hsu, C., Wang, R., Whipple, B. C., 2021. Non-gaap earnings and stock price crash risk. Journal of Accounting and Economics p. 101473.

Hutton, A. P., Marcus, A. J., Tehranian, H., 2009. Opaque financial reports, r2, and crash risk. Journal of Financial Economics 94, 67–86.

Jayaraman, S., Wu, J. S., 2018. Is Silence Golden? Real Effects of Mandatory Disclosure. The Review of Financial Studies 32, 2225–2259.

Johnson, T., Kim, J., So, E., 2020. Expectations management and stock returns. The Review of Financial Studies .

Johnson, T. L., So, E. C., 2018a. Asymmetric trading costs prior to earnings announcements: Implications for price discovery and returns. Journal of Accounting Research 56, 217–263.

Johnson, T. L., So, E. C., 2018b. Time will tell: Information in the timing of scheduled earnings news. Journal of Financial and Quantitative Analysis 53, 2431–2464.

Kacperczyk, M., Sialm, C., Zheng, L., 2005. On the industry concentration of actively managed equity mutual funds. Journal of Finance 60, 1983–2011.

Kajüter, P., Klassmann, F., Nienhaus, M., 2018. The Effect of Mandatory Quarterly Reporting on Firm Value. The Accounting Review 94, 251–277.

Kapadia, N., Zekhnini, M., 2019. Do idiosyncratic jumps matter? Journal of Financial Economics 131, 666–692.

Kim, Y., Su, L. N., Zhu, X. K., 2017. Does the cessation of quarterly earnings guidance reduce investors'short-termism? Review of Accounting Studies 22, 715–752.

Kothari, S. P., Shu, S., Wysocki, P. D., 2009. Do managers withhold bad news? Journal of Accounting Research 47, 241–276.

Kwak, B., Ro, B., Suk, I., 2012. The composition of top management with general counsel and voluntary information disclosure. Journal of Accounting and Economics 54, 19–41.

Lambert, R., Leuz, C., Verrecchia, R. E., 2007. Accounting information, disclosure, and the cost of capital. Journal of Accounting Research 45, 385–420.

Lehavy, R., Sloan, R., 2008. Investor recognition and stock returns. Review of Accounting Studies 13, 327–361.

Lennox, C. S., Park, C. W., 2006. The informativeness of earnings and management's issuance of earnings forecasts. Journal of Accounting and Economics 42, 439–458.

Lerman, A., Livnat, J., 2010. The new form 8-k disclosures. Review of Accounting Studies 15, 752–778.

Marinovic, I., Varas, F., 2016. No news is good news: voluntary disclosure in the face of litigation. The RAND Journal of Economics 47, 822–856.

McMullin, J. L., Miller, B. P., Twedt, B. J., 2019. Increased mandated disclosure frequency and price formation: evidence from the 8-k expansion regulation. Review of Accounting Studies 24, 1–33.

Merton, R., 1987. A simple model of capital market equilibrium with incomplete information. Journal of Finance 42, 483–510.

Niessner, M., 2015. Strategic disclosure timing and insider trading. Working Paper .

NIRI, 2016. Standards of practice for investor relations: Disclosure. Available at https://www.niri.org/NIRI/media/NIRI/Professinal%20Development/Seminars/niri_ standardspractice_updated_lr.pdf .

Noh, S., So, E. C., Verdi, R. S., 2021. Calendar rotations: A new approach for studying the impact of timing using earnings announcements. Journal of Financial Economics .

Noh, S., So, E. C., Weber, J. P., 2019. Voluntary and mandatory disclosures: Do managers view them as substitutes? Journal of Accounting and Economics 68, 101243.

Patell, J., Wolfson, M., 1979. Anticipated information releases reflected in call option prices. Journal of Accounting and Economics 2, 117–140.

Patell, J., Wolfson, M., 1981. The ex ante and ex post price effects of quarterly earnings announcements reflected in option and stock prices. Journal of Accounting Research 2, 434–458.

Patton, A. J., Verardo, M., 2012. Does Beta Move with News? Firm-Specific Information Flows and Learning about Profitability. The Review of Financial Studies 25, 2789–2839.

Penman, S., 1987. The distribution of earnings news over time and seasonalities in aggregate stock returns. Journal of Financial Economics 18, 199–228.

Rogers, J. L., Van Buskirk, A., 2013. Bundled forecasts in empirical accounting research. Journal of Accounting and Economics 55, 43–65.

Savor, P., Wilson, M., 2016. Earnings announcements and systematic risk. Journal of Finance 71, 83–138.

Shao, S., Stoumbos, R., Zhang, X. F., 2021. The power of firm fundamental information in explaining stock returns. Review of Accounting Studies .

Sharpe, W., 1964. Capital asset prices: A theory of market equilibrium under conditions of risk. Journal of Finance 19, 425–442.

Skinner, D. J., 1994. Why firms voluntarily disclose bad news. Journal of Accounting Research 32, 38–60.

Stoumbos, R. C., 2019. How does more frequent reporting reduce information asymmetry? Working Paper .

Van Buskirk, A., 2012. Disclosure frequency and information asymmetry. Review of Quantitative Finance and Accounting 38, 411–440.

Verrecchia, R. E., 1983. Discretionary disclosure. Journal of Accounting and Economics 5, 179 – 194.

Zhao, X., 2017. Does information intensity matter for stock returns? evidence from form 8-k filings. Management Science 63, 1382–1404.

Zhou, F. S., Zhou, Y., 2020. The dog that did not bark: Limited price efficiency and strategic nondisclosure. Journal of Accounting Research 58, 155–197.

Zhu, W., 2016. Accruals and price crashes. Review of Accounting Studies 21, 349–399.

6 Appendix

6.1 Variable Definitions

Variables	Definition	Source
Dependent Variables		
$\text{Jump}_{0\|1}$	An indicator variable for stocks with a jump in stock price on earnings announcements day zero or day one. Following Kapadia and Zekhnini (2019), jump days are days when the absolute idiosyncratic stock return is greater than 3 conditional standard deviations. See Section 3.3 for a detailed definition.	CRSP
$\text{Jump}^{+}_{0\|1}$	An indicator variable for an earnings announcement with a positive jump in stock price on day zero or day one.	CRSP
$\text{Jump}^{-}_{0\|1}$	An indicator variable for an earnings announcement with a negative jump in stock price on day zero or day one.	CRSP
$r_{0,1}$	Earnings announcement day zero and day one compounded abnormal stock return per the Carhart (1997) 4-factor model (see Equation (4)).	CRSP
Independent Variables		
Disclosure Distance_q	$\frac{EADate_q - MAX(EADate_{q-1}, 8KDisclosureDate_{q-1,q})}{EADate_q - EADate_{q-1}}$	SEC EDGAR, Compustat, I/B/E/S
$r_{-1,-1}$	Earnings announcement day -1 abnormal stock return per the Carhart (1997) 4-factor model.	CRSP
$r_{-20,-2}$	Earnings announcement day [-20,-2] compounded abnormal stock return per the Carhart (1997) 4-factor model.	CRSP
ln(Market Equity_q)	The natural logarithm of the market value of equity at the end of fiscal quarter q.	CRSP
ln($\text{Book-to-market}_{q-1}$)	The natural logarithm of the book-to-market ratio, with the book and market value of equity measured at the end of fiscal quarter $q-1$.	CRSP and Compustat
$\text{ROA}_{q-4,q-1}$	Operating income after depreciation (OIADPQ) summed over the trailing four quarters, deflated by $q-1$ total assets.	Compustat
R&D $\text{Expense}_{q-4,q-1}$	R&D expense (XRDQ) summed over the trailing four quarters (with missing values set to zero), deflated by $q-1$ total assets (ATQ).	
Financial Leverage_{q-1}	Total debt (DLTTQ+DLCQ) at $q-1$ deflated by $q-1$ total assets (ATQ) with missing values set equal to zero.	
SUE_q	Standardized unexpected earnings based on a seasonal random walk earnings expectation model. $100 \times \frac{EPSPXQ_q - EPSPXQ_{q-4}}{P_q}$	Compustat
Net External Financing_q	Net external financing from Bradshaw et al. (2006) for quarter q. (SSTKY-PRSTKCY-DVY+DLTISY-DLTRY+DLCCHY)/ATQ.	Compustat
Analyst Coverage_q	The number of analysts providing at least one forecast for quarter q EPS.	I/B/E/S
EPS Guidance_q	An indicator variable for a quarter q with at least one management forecast of EPS.	I/B/E/S
Idiosyncratic $\text{Volatility}_{-150,-1}$	The natural logarithm of percent conditional volatility estimated via the formula in Section 3.3 ($\ln(\sigma_{-150,-1} \times 100)$).	CRSP
$\text{Beta}_{(q-1,q)}$	The slope coefficient from a regression of intraperiod (trading days between two adjacent earnings announcements) firm specific stock returns on the CRSP value-weighted market factor.	CRSP
$\text{Synchronicity}_{(q-1,q)}$	$\ln(\frac{R^2}{1-R^2})$ where the R^2 is from a regression of intraperiod firm specific stock returns on the CRSP value-weighted market factor.	CRSP
ln($\text{Illiquidity}_{(q-1,q)}$)	Amihud (2002) illiquidity modified by Barardehi et al. (2021) to use open-to-close prices to compute returns, measured over the intraperiod $(q-1,q)$. $\frac{1}{N}\sum \frac{\|ret^{oc}\|}{\$TradingVolume}$	CRSP
ln(Avg. Trading $\text{Volume}_{(q-1,q)}$)	$\frac{1}{N}\sum$ \$ Trading Volume, measured over the intraperiod $(q-1,q)$.	CRSP

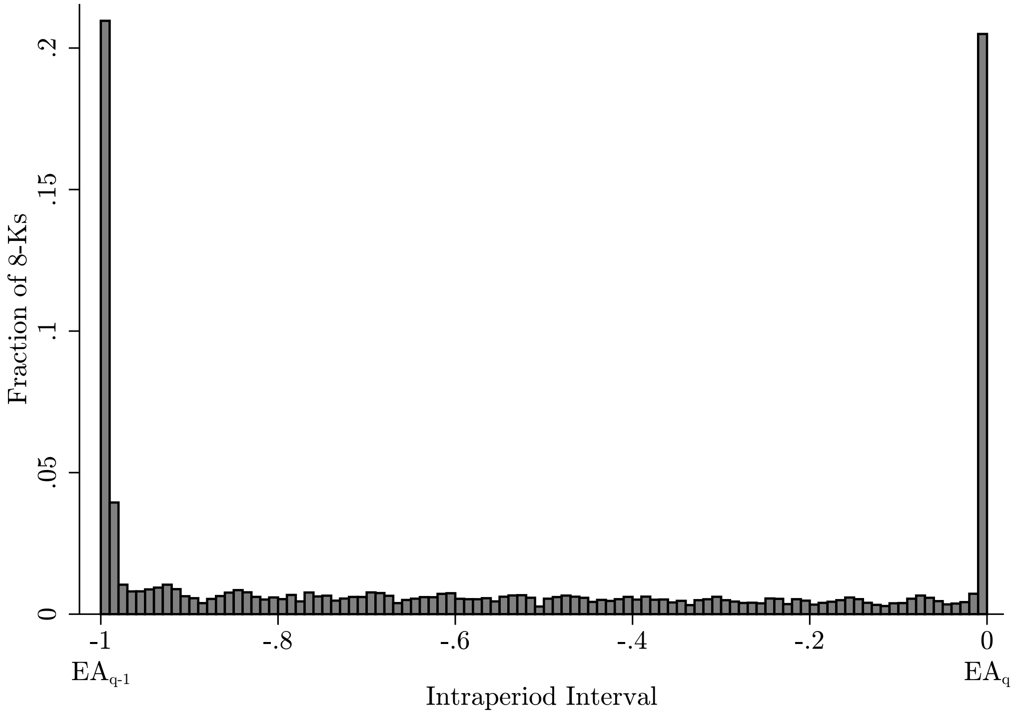


Figure 1. 8-K Information Arrival between Adjacent Earnings Announcements
This figure presents the distribution of 8-Ks filed between adjacent earnings announcements. Intraperiod Interval = $-\frac{EA_q - Date8K}{EA_q - EA_{q-1}}$. The sample spans January 2006–December 2019.

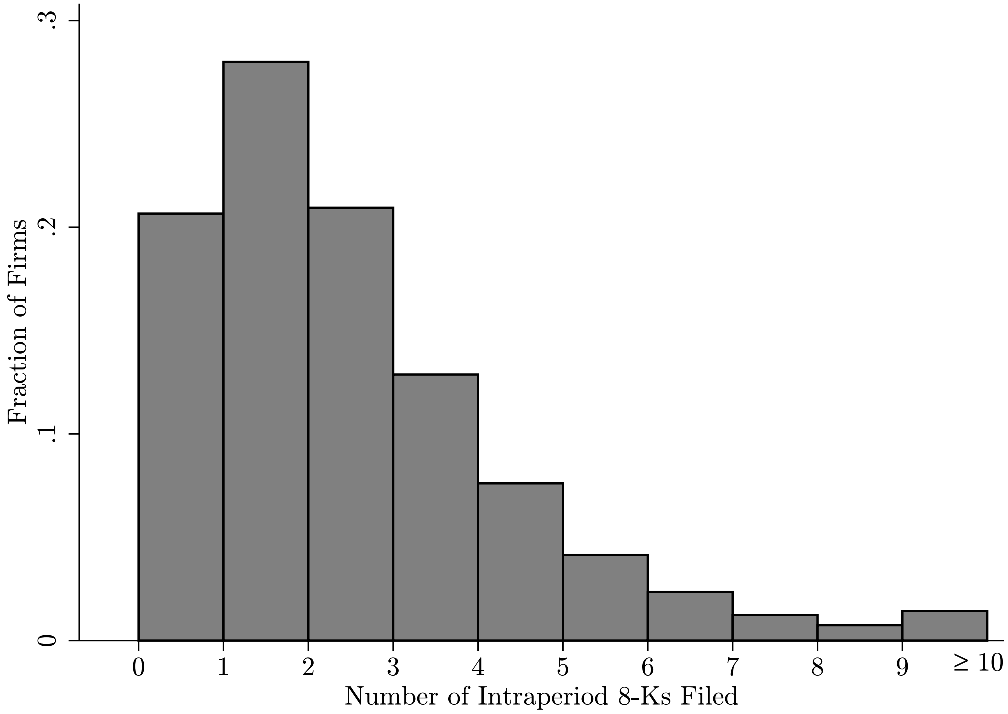


Figure 2. Number of Intraperiod 8-Ks Filed Each Firm-Quarter
This figure presents the distribution of the number of non-earnings 8-Ks filed each firm-quarter. The sample spans January 2006–December 2019.

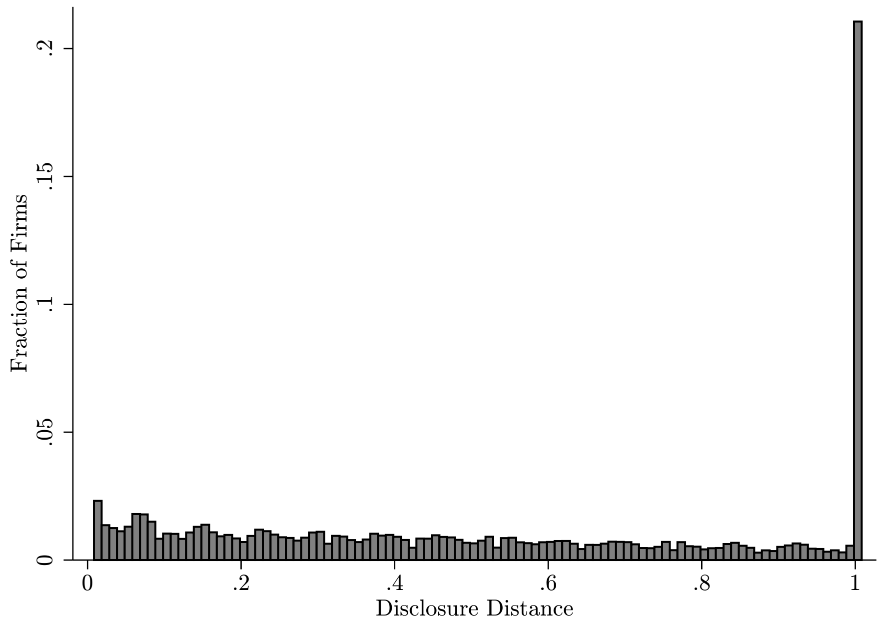
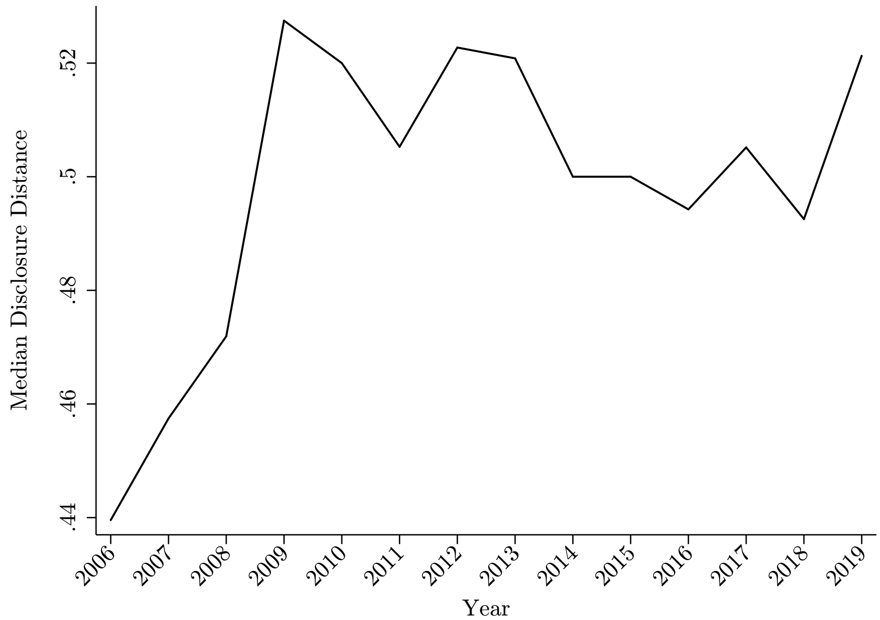


Figure 3. Disclosure Distance Distribution
This figure presents the distribution of disclosure distance calculated at each earnings announcement date. Disclosure distance $= \frac{EA_q - MAX(Date8K, EA_{q-1})}{EA_q - EA_{q-1}}$. A value of 1 represents a silent firm in-between adjacent earnings announcements (a distant disclosing firm), while a low value represents a firm that issues a disclosure close to the current earnings announcement (a recent disclosing firm). The sample spans January 2006–December 2019.

Panel A: Median Disclosure Distance



Panel B: 25th Percentile, Median, and 75th Percentile Disclosure Distance

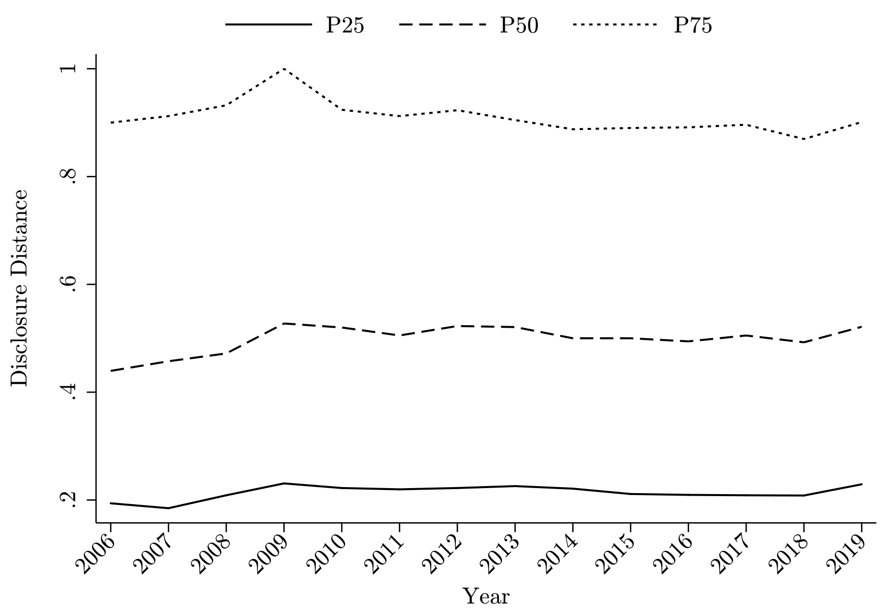


Figure 4. Disclosure Distance over Time
This figure presents distributional statistics for disclosure distance over time. Panel A plots median disclosure distance. Panel B plots P25, P50 (median), and P75 distributional cutoffs. The sample spans January 2006–December 2019.

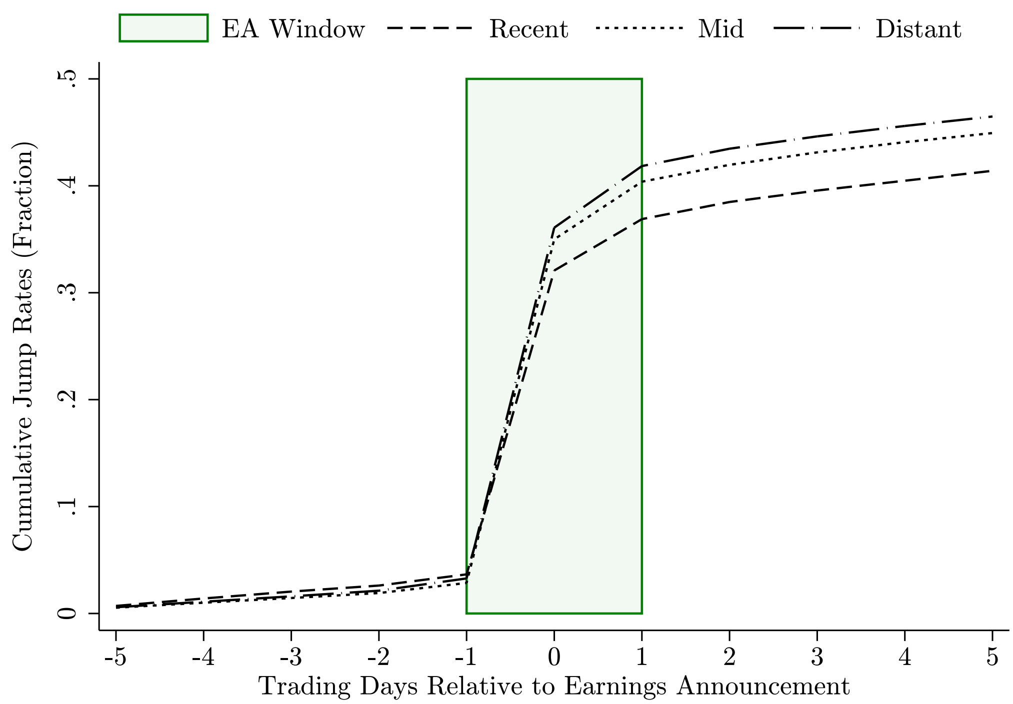


Figure 5. Cumulative Jump Rate around Earnings Announcements
This figure presents the cumulative jump rate around earnings announcements for portfolios sorted by disclosure distance each quarter. Jump days are extreme idiosyncratic volatility days where the absolute idiosyncratic return is greater than 3× the historic idiosyncratic volatility. The sample spans January 2006–December 2019.

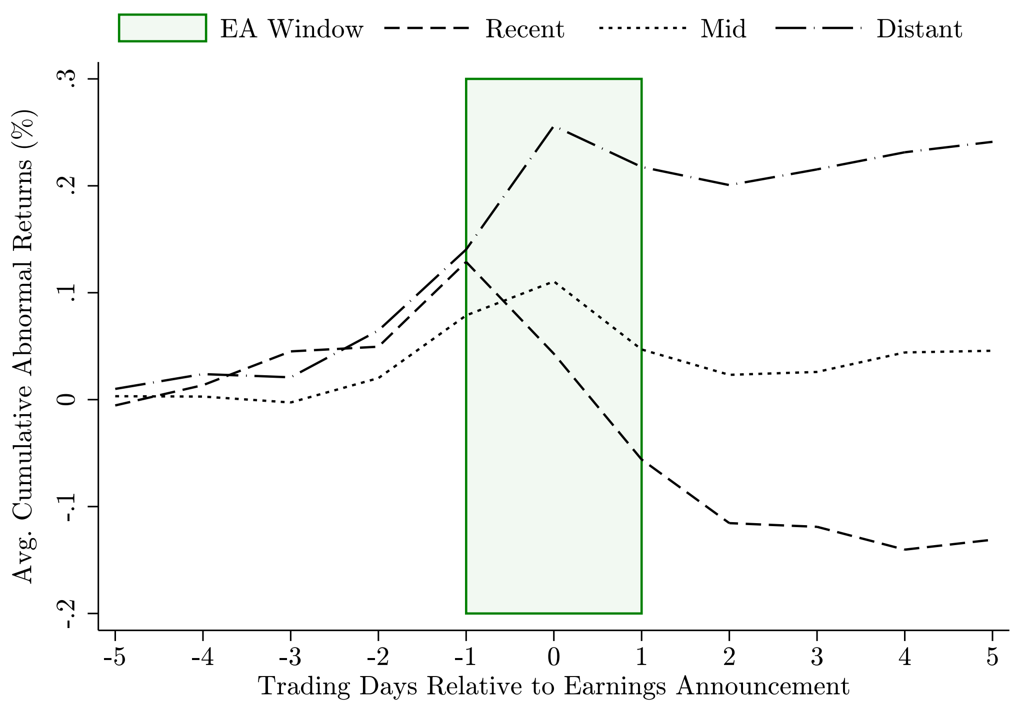


Figure 6. Cumulative Abnormal Returns around Earnings Announcements
This figure presents average cumulative abnormal returns (per the Carhart (1997) model) around earnings announcements for portfolios sorted by disclosure distance each quarter. The sample spans January 2006–December 2019.

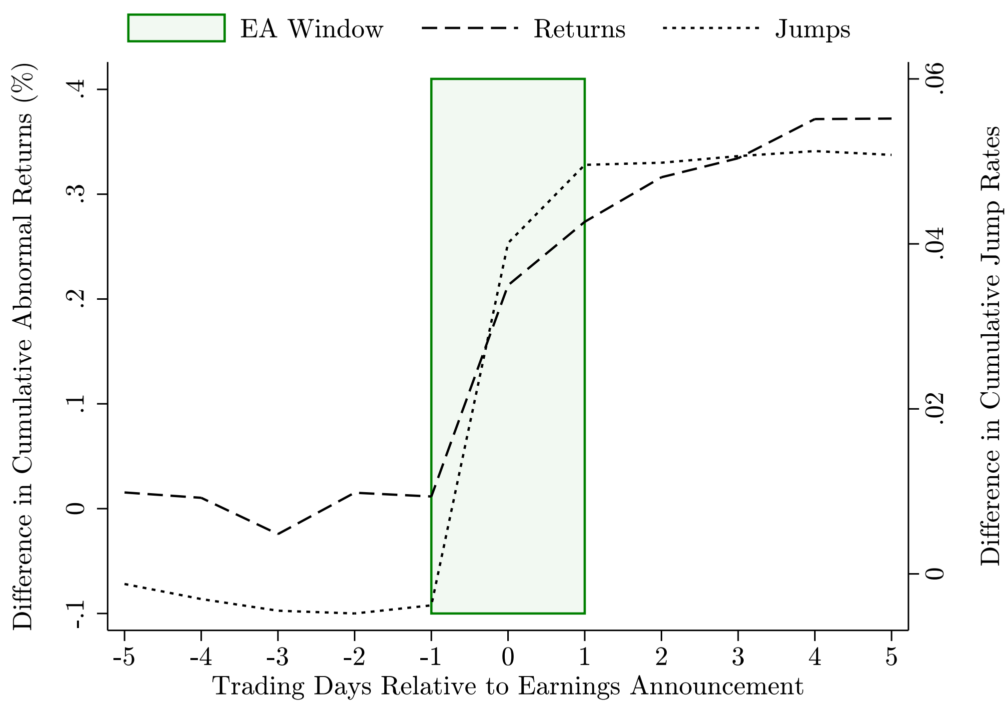


Figure 7. Distant Minus Recent Hedge Portfolio Returns and Difference in Jump Rates around Earnings Announcements

This figure plots the difference in returns and jump rates between distant disclosing stocks and recent disclosing stocks around earnings announcements. The left y-axis scales the dashed line plotting the difference in cumulative abnormal returns (per the Carhart (1997) model), and the right axis scales the dotted line plotting the difference in the cumulative jump rate. The sample spans January 2006–December 2019.

Table 1. Descriptive Statistics
This table presents descriptive statistics. Panel A is the time series average of quarterly distributional statistics. Panel B presents the time series average of quarterly correlations. Continuous independent variables are winsorized at the 1% tails of the distribution each quarter. See Appendix Section 6.1 for variable definitions. The sample spans January 2006–December 2019.

Panel A: Distributions

Variable	Mean	SD	P1	P25	P50	P75	P99
Disclosure Distance_q	0.532	0.346	0.011	0.213	0.499	0.916	1.000
ln($\text{Book-to-Market}_{q-1}$)	-0.773	0.814	-3.341	-1.246	-0.679	-0.211	0.978
ln(Market Equity_q)	6.706	1.993	2.350	5.292	6.712	8.045	11.586
$\text{ROA}_{q-4,q-1}$	0.030	0.168	-0.815	0.011	0.054	0.106	0.341
R&D $\text{Expense}_{q-4,q-1}$	0.044	0.096	0.000	0.000	0.000	0.041	0.549
Financial Leverage_{q-1}	0.193	0.181	0.000	0.027	0.153	0.308	0.722
Net External Financing_q	0.008	0.103	-0.235	-0.029	-0.004	0.015	0.527
SUE_q	-0.225	7.606	-38.985	-0.704	0.075	0.685	33.774
$\text{Beta}_{(q-1,q)}$	1.041	0.636	-0.550	0.641	1.038	1.431	2.772
$\text{Synchronicity}_{(q-1,q)}$	-1.825	1.925	-9.121	-2.565	-1.288	-0.526	0.743
ln($\text{Illiquidity}_{(q-1,q)}$)	-19.247	3.040	-24.999	-21.536	-19.649	-17.136	-12.138
ln(Avg. Trading $\text{Volume}_{(q-1,q)}$)	15.315	2.610	9.465	13.480	15.630	17.274	20.325
ln(Idiosyncratic $\text{Volatility}_{-120,-1}$)	0.567	0.543	-0.516	0.172	0.527	0.916	2.053
EPS Guidance_q	0.218	0.404	0.000	0.000	0.000	0.268	1.000
Analyst Coverage_q	2.775	4.030	0.000	0.000	1.214	3.714	20.625
$r_{-20,-2}$	-0.032	10.747	-26.448	-4.949	-0.277	4.314	31.628
$r_{-1,-1}$	0.083	3.124	-7.679	-1.143	0.021	1.195	8.816
$r_{0,1}$	-0.009	9.158	-24.779	-3.931	-0.043	3.804	25.147
$\text{Jump}_{0\|1}$	0.376	0.480	0.000	0.000	0.000	0.982	1.000
$\text{Jump}^{+}_{0\|1}$	0.205	0.401	0.000	0.000	0.000	0.107	1.000
$\text{Jump}^{-}_{0\|1}$	0.153	0.358	0.000	0.000	0.000	0.000	1.000

Panel B: Correlations (Pearson correlations are above the diagonal of ones; Spearman correlations are below the diagonal of ones)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 Disclosure Distance_q	1.00	0.01	-0.08	0.07	-0.02	-0.09	-0.06	0.02	-0.04	-0.01	0.09	-0.11	0.02	-0.09	-0.04	0.00	-0.01	0.01	0.05	0.04	0.02
2 ln(Book-to-Market_{q-1})	0.00	1.00	-0.36	-0.05	-0.30	-0.10	-0.09	-0.07	-0.14	-0.20	0.37	-0.38	-0.15	-0.13	0.09	0.01	0.01	0.00	-0.11	-0.07	-0.07
3 ln(Market Equity_q)	-0.08	-0.38	1.00	0.38	-0.17	0.21	-0.13	-0.01	0.24	0.59	-0.96	0.94	0.25	0.57	-0.59	-0.02	-0.00	0.01	0.17	0.11	0.12
4 $\text{ROA}_{q-4,q-1}$	0.06	-0.36	0.47	1.00	-0.13	0.09	-0.44	-0.11	-0.01	0.26	-0.37	0.32	0.16	0.18	-0.42	0.00	0.03	0.02	0.14	0.09	0.09
5 R&D $\text{Expense}_{q-4,q-1}$	0.03	-0.35	-0.05	-0.13	1.00	-0.21	0.31	0.07	0.07	-0.13	0.14	-0.09	0.03	-0.11	0.32	0.00	-0.02	-0.01	-0.03	-0.02	-0.01
6 Financial Leverage_{q-1}	-0.09	-0.03	0.26	0.12	-0.24	1.00	0.02	-0.02	0.08	0.11	-0.22	0.22	-0.01	0.13	-0.06	-0.00	-0.00	0.00	0.02	0.02	0.01
7 Net External Financing_q	-0.06	0.03	-0.16	-0.33	0.11	-0.00	1.00	0.02	0.07	-0.09	0.11	-0.08	-0.08	-0.07	0.23	-0.01	-0.02	-0.03	-0.05	-0.05	-0.02
8 SUE_q	0.02	-0.06	0.02	-0.03	0.02	-0.01	-0.02	1.00	-0.02	-0.00	0.01	-0.01	-0.02	-0.02	-0.01	0.03	0.04	0.09	-0.01	0.04	-0.05
9 $\text{Beta}_{(q-1,q)}$	-0.03	-0.14	0.23	0.04	0.11	0.06	0.06	-0.00	1.00	0.64	-0.30	0.35	0.09	0.14	0.08	-0.01	-0.03	-0.01	0.11	0.07	0.07
10 $\text{Synchronicity}_{(q-1,q)}$	-0.00	-0.19	0.61	0.31	-0.07	0.15	-0.13	0.02	0.62	1.00	-0.61	0.58	0.17	0.26	-0.49	-0.01	-0.03	0.01	0.19	0.13	0.12
11 ln($\text{Illiquidity}_{(q-1,q)}$)	0.09	0.38	-0.97	-0.47	0.02	-0.26	0.16	-0.01	-0.23	-0.57	1.00	-0.98	-0.27	-0.56	0.55	0.02	-0.00	-0.00	-0.20	-0.13	-0.14
12 ln(Avg. Trading $\text{Volume}_{(q-1,q)}$)	-0.10	-0.40	0.95	0.43	0.01	0.26	-0.13	0.01	0.29	0.54	-0.99	1.00	0.27	0.57	-0.44	-0.01	0.01	-0.00	0.19	0.12	0.14
13 ln(Idiosyncratic $\text{Volatility}_{-120,-1}$)	0.02	-0.18	0.25	0.21	0.16	0.00	-0.09	-0.02	0.09	0.16	-0.27	0.27	1.00	0.11	-0.12	0.01	-0.00	0.01	0.12	0.08	0.08
14 EPS Guidance_q	-0.09	-0.20	0.65	0.27	-0.08	0.20	-0.07	-0.01	0.20	0.37	-0.67	0.68	0.17	1.00	-0.22	-0.01	-0.01	-0.00	0.04	0.02	0.05
15 Analyst Coverage_q	-0.03	0.10	-0.59	-0.36	0.21	-0.12	0.21	-0.02	0.10	-0.56	0.54	-0.43	-0.12	-0.29	1.00	0.03	0.01	-0.02	-0.19	-0.13	-0.10
16 $r_{-20,-2}$	0.01	-0.00	0.01	0.03	0.00	-0.00	-0.01	0.04	0.00	0.01	-0.01	0.01	0.01	0.00	-0.01	1.00	-0.03	-0.04	-0.01	-0.02	0.01
17 $r_{-1,-1}$	-0.00	-0.01	0.04	0.06	-0.02	0.01	-0.03	0.06	-0.04	0.01	-0.04	0.04	0.01	0.01	-0.06	-0.03	1.00	-0.01	-0.02	-0.01	-0.01
18 $r_{0,1}$	0.01	-0.00	0.02	0.02	-0.01	0.01	-0.04	0.16	-0.00	0.02	-0.02	0.01	0.02	0.01	-0.03	-0.06	-0.00	1.00	0.03	0.51	-0.57
19 $\text{Jump}_{0\|1}$	0.05	-0.12	0.17	0.17	0.07	0.02	-0.06	0.01	0.11	0.19	-0.19	0.18	0.12	0.10	-0.18	0.00	-0.01	0.03	1.00	0.65	0.55
20 $\text{Jump}^{+}_{0\|1}$	0.04	-0.08	0.11	0.11	0.04	0.02	-0.06	0.11	0.07	0.12	-0.12	0.11	0.08	0.07	-0.12	-0.02	-0.01	0.54	0.65	1.00	-0.16
21 $\text{Jump}^{-}_{0\|1}$	0.02	-0.08	0.12	0.11	0.04	0.01	-0.02	-0.10	0.07	0.12	-0.14	0.13	0.08	0.09	-0.10	0.03	0.00	-0.58	0.55	-0.16	1.00

Table 2. Determinants of Disclosure Distance

This table presents Tobit regressions of Disclosure Distance_q on determinants. t-values are in brackets based on standard errors clustered by stock (p<.10*, p<.05**, p<.01***). The sample spans January 2006–December 2019.

	Disclosure Distance_q			
	(1)	(2)	(3)	(4)
Disclosure Distance_{q-4}			0.331***	0.303***
			[56.25]	[52.89]
ln(Market Equity_q)	-0.023***	-0.023***		-0.017***
	[-13.43]	[-13.61]		[-13.01]
Analyst Coverage_q	-0.005***	-0.005***		-0.004***
	[-7.24]	[-7.16]		[-7.37]
EPS Guidance_q	0.013**	0.012**		0.008*
	[2.27]	[2.12]		[1.84]
ln(Book-to-market_{q-1})	-0.015***	-0.016***		-0.011***
	[-4.48]	[-4.85]		[-4.18]
$\text{ROA}_{q-4,q-1}$	0.325***	0.290***		0.219***
	[18.40]	[16.25]		[15.21]
R&D $\text{Expense}_{q-4,q-1}$	0.094***	0.102***		0.079***
	[2.98]	[3.26]		[3.20]
Financial Leverage_{q-1}	-0.170***	-0.164***		-0.117***
	[-11.86]	[-11.48]		[-10.53]
SUE_q		0.001***		0.001***
		[9.94]		[10.25]
Net External Financing_q		-0.151***		-0.128***
		[-10.52]		[-10.10]
Pseudo R^2	0.022	0.023	0.054	0.068
N	146,825	146,825	146,825	146,825

Table 3. Earnings Announcement Jump Risk
This table presents results for earnings announcement jump risk. Panel A presents the proportion of each portfolio that jumps on earnings announcement day zero or day one for portfolios sorted by disclosure distance each quarter. t-values are in brackets and standard errors are clustered by stock and trading date in Panel A. Panel B presents logit regressions of indicators for a day zero or day one idiosyncratic jump on explanatory variables. In Panel B, z-values are in brackets based on standard errors clustered by stock and trading date (p<.10*, p<.05**, p<.01***). See Appendix Section 6.1 for variable definitions. The sample spans January 2006–December 2019.

Panel A: Disclosure Distance Sorted Portfolios

	Disclosure Distance			
	Recent	Mid	Distant	**Distant-Recent**
$\text{Jump}_{0\|1}$	0.340	0.383	0.395	0.055***
	[82.538]	[91.259]	[83.208]	[12.760]
Positive $\text{Jump}_{0\|1}$	0.182	0.208	0.218	0.036***
	[69.635]	[73.552]	[71.070]	[11.823]
Negative $\text{Jump}_{0\|1}$	0.141	0.156	0.158	0.016***
	[60.415]	[66.536]	[61.595]	[6.083]
N	49,128	48,860	48,837	

Panel B: Earnings Announcement Jump Indicator Logit Regressions

	$\text{Jump}_{0\|1}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disclosure Distance_q	0.276***	0.276***		0.290***	0.310***	0.317***	0.263***
	[12.39]	[12.39]		[13.96]	[15.28]	[15.64]	[12.97]
Disclosure Distance_{q-4}			0.076***	0.000	0.025	0.036*	-0.015
			[3.50]	[0.00]	[1.31]	[1.88]	[-0.76]
ln($\text{Book-to-market}_{q-1}$)					-0.091***	-0.123***	-0.058***
					[-6.82]	[-9.08]	[-4.43]
$\text{ROA}_{q-4,q-1}$					1.398***	1.457***	0.930***
					[17.19]	[17.43]	[11.40]
R&D $\text{Expense}_{q-4,q-1}$					0.635***	0.576***	-0.415***
					[4.40]	[4.00]	[-2.82]
Financial Leverage_{q-1}					-0.086	-0.176***	-0.068
					[-1.60]	[-3.26]	[-1.26]
ln(Market Equity_q)					-0.442***	-0.422***	-0.367***
					[-24.92]	[-23.52]	[-21.07]
Analyst Coverage_q					-0.029***	-0.031***	-0.021***
					[-11.48]	[-11.91]	[-8.07]
EPS Guidance_q					0.228***	0.230***	0.077***
					[10.37]	[10.40]	[3.43]
$\text{Beta}_{(q-1,q)}$					-0.037**	-0.049***	-0.058***
					[-2.11]	[-2.76]	[-3.31]
$\text{Synchronicity}_{(q-1,q)}$					0.148***	0.153***	0.153***
					[18.98]	[19.59]	[20.10]
$\text{Illiquidity}_{(q-1,q)}$					-0.400***	-0.439***	-0.523***
					[-17.43]	[-19.39]	[-23.49]
Avg. Trading $\text{Volume}_{(q-1,q)}$					-0.032	-0.084***	-0.212***
					[-1.39]	[-3.69]	[-9.19]
$r_{-1,-1}$					-0.009***	-0.009***	-0.010***
					[-4.86]	[-4.84]	[-5.39]
$r_{-20,-2}$					-0.006***	-0.006***	-0.006***
					[-9.30]	[-9.00]	[-9.13]
$\|\text{SUE}_q\|$						0.128***	0.115***
						[11.60]	[10.68]
Net External Financing_q						-0.045	0.105
						[-0.66]	[1.57]
Pseudo R^2	0.002	0.002	0.013	0.015	0.076	0.078	0.097
Quarter FE	No	Yes	Yes	Yes	Yes	Yes	No
Industry × Quarter FE	No	No	No	No	No	No	Yes
N	146,825	146,825	146,825	146,825	146,825	146,825	146,825

Table 4. Earnings Announcement Stock Returns

This table presents results for earnings announcement abnormal stock returns compounded over event days zero to one ($r_{0,1}$). Panel A presents average Carhart (1997) four-factor alphas for portfolios sorted by disclosure distance each quarter. Panel B presents panel regressions of Carhart (1997) four-factor alphas on explanatory variables. See Appendix Section 6.1 for variable definitions. t-values are in brackets based on standard errors clustered by stock and trading date (p<.10*, p<.05**, p<.01***). The sample spans January 2006–December 2019.

Panel A: Disclosure Distance Sorted Portfolios

	Disclosure Distance			
	Recent	Mid	Distant	**Distant-Recent**
$r_{0,1}$	-0.169	-0.009	0.105	0.274***
	[-3.720]	[-0.189]	[2.309]	[4.660]
N	49,128	48,860	48,837	

Panel B: Earnings Announcement Stock Return Regressions

	$r_{0,1}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disclosure Distance$_q$	0.333***	0.340***		0.343***	0.247***	0.180**	0.176**
	[4.74]	[4.84]		[4.64]	[3.39]	[2.49]	[2.41]
Disclosure Distance$_{q-4}$			0.078	-0.011	-0.063	-0.032	-0.030
			[1.05]	[-0.15]	[-0.79]	[-0.41]	[-0.38]
ln(Book-to-market$_{q-1}$)					0.109**	0.156***	0.146***
					[2.38]	[3.45]	[3.21]
ROA$_{q-4,q-1}$					1.546***	1.554***	1.602***
					[5.42]	[4.95]	[5.00]
R&D Expense$_{q-4,q-1}$					1.498***	1.617***	1.681**
					[2.58]	[2.74]	[2.44]
Financial Leverage$_{q-1}$					0.320*	0.436**	0.488***
					[1.85]	[2.52]	[2.71]
ln(Market Equity$_q$)					0.240***	0.227***	0.236***
					[4.26]	[4.05]	[4.15]
Analyst Coverage$_q$					0.003	0.004	0.001
					[0.44]	[0.58]	[0.11]
EPS Guidance$_q$					0.156**	0.144**	0.175**
					[2.35]	[2.16]	[2.52]
Beta$_{(q-1,q)}$					0.059	0.132*	0.115
					[0.77]	[1.74]	[1.49]
Synchronicity$_{(q-1,q)}$					-0.005	-0.017	-0.021
					[-0.21]	[-0.70]	[-0.83]
Illiquidity$_{(q-1,q)}$					-0.154*	-0.164**	-0.169**
					[-1.84]	[-1.98]	[-2.03]
Avg. Trading Volume$_{(q-1,q)}$					-0.372***	-0.371***	-0.375***
					[-4.02]	[-4.01]	[-4.00]
$r_{-1,-1}$					-0.117***	-0.123***	-0.127***
					[-6.23]	[-6.55]	[-6.63]
$r_{-20,-2}$					-0.010**	-0.014***	-0.016***
					[-2.22]	[-2.93]	[-3.40]
ln(Idiosyncratic Volatility$_{-150,-1}$)					-0.085	0.028	0.040
					[-0.92]	[0.30]	[0.43]
SUE$_q$						0.074***	0.075***
						[9.48]	[9.57]
Net External Financing$_q$						-2.048***	-2.111***
						[-5.55]	[-5.68]
Adjusted R^2	0.000	0.001	0.001	0.001	0.004	0.011	0.013
Quarter FE	No	Yes	Yes	Yes	Yes	Yes	No
Industry × Quarter FE	No	No	No	No	No	No	Yes
N	146,825	146,825	146,825	146,825	146,825	146,825	146,825

Table 5. Investor Recognition and Earnings Announcement Stock Returns
This table presents results for earnings announcement abnormal stock returns compounded over event days zero to one ($r_{0,1}$). Regression specifications include controls corresponding to those in the same columns in Table 4, Panel B. Panel A presents panel regressions of Carhart (1997) four-factor alphas on explanatory variables for stocks with low investor recognition and Panel B presents results for stocks with high investor recognition. ΔInvestor recognition is proxied by a cross-sectional median partition on the change in the number of 13-F filing institutions holding the stock from $q-1$ to q. See Appendix Section 6.1 for variable definitions. t-values are in brackets based on standard errors clustered by stock and trading date (p<.10*, p<.05**, p<.01***). The sample spans earnings announcements over January 2006–December 2019.

Panel A: Low ΔInvestor Recognition Sample

	$r_{0,1}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disclosure Distance$_q$	0.517***	0.521***		0.493***	0.375***	0.287***	0.288***
	[5.25]	[5.29]		[4.78]	[3.61]	[2.80]	[2.77]
Disclosure Distance$_{q-4}$			0.233**	0.104	0.042	0.076	0.076
			[2.38]	[1.01]	[0.41]	[0.74]	[0.74]
Adjusted R^2	0.000	0.002	0.001	0.002	0.006	0.015	0.017
Ex ante Controls	No	No	No	No	Yes	Yes	Yes
Contemporaneous Controls	No	No	No	No	No	Yes	Yes
Quarter FE	No	Yes	Yes	Yes	Yes	Yes	No
Industry × Quarter FE	No	No	No	No	No	No	Yes
N	77,863	77,863	77,863	77,863	77,863	77,863	77,863

Panel B: High ΔInvestor Recognition Sample

	$r_{0,1}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disclosure Distance$_q$	0.127	0.139		0.176*	0.102	0.056	0.054
	[1.31]	[1.43]		[1.69]	[1.00]	[0.54]	[0.52]
Disclosure Distance$_{q-4}$			-0.100	-0.145	-0.185	-0.160	-0.165
			[-0.91]	[-1.23]	[-1.49]	[-1.30]	[-1.31]
Adjusted R^2	0.000	0.001	0.001	0.001	0.003	0.007	0.007
Ex ante Controls	No	No	No	No	Yes	Yes	Yes
Contemporaneous Controls	No	No	No	No	No	Yes	Yes
Quarter FE	No	Yes	Yes	Yes	Yes	Yes	No
Industry × Quarter FE	No	No	No	No	No	No	Yes
N	68,962	68,962	68,962	68,962	68,962	68,962	68,962

Table 6. Investor Recognition and Earnings Announcement Jump Risk
This table presents results for earnings announcement jump risk. Regression specifications include controls corresponding to those in the same columns in Table 3, Panel B. Panel A presents logit regressions of jump indicators on explanatory variables for stocks with low investor recognition, and Panel B presents results for stocks with high investor recognition. ΔInvestor recognition is proxied by a cross-sectional median partition on the change in the number of 13-F filing institutions holding the stock from $q-1$ to q. z-values are in brackets based on standard errors clustered by stock and trading date (p<.10*, p<.05**, p<.01***). See Appendix Section 6.1 for variable definitions. The sample spans January 2006–December 2019.

Panel A: Low ΔInvestor Recognition Sample

	$\text{Jump}_{0\|1}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disclosure Distance_q	0.252***	0.252***		0.275***	0.299***	0.309***	0.250***
	[9.19]	[9.19]		[10.35]	[11.07]	[11.44]	[9.08]
Disclosure Distance_{q-4}			0.038	-0.035	0.001	0.013	-0.029
			[1.42]	[-1.36]	[0.04]	[0.53]	[-1.16]
Pseudo R^2	0.001	0.001	0.014	0.015	0.082	0.083	0.105
Quarter FE	No	Yes	Yes	Yes	Yes	Yes	No
Industry × Quarter FE	No	No	No	No	No	No	Yes
N	77,863	77,863	77,863	77,863	77,863	77,863	77,863

Panel B: High ΔInvestor Recognition Sample

	$\text{Jump}_{0\|1}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disclosure Distance_q	0.308***	0.308***		0.327***	0.320***	0.325***	0.276***
	[11.09]	[11.09]		[12.06]	[11.71]	[11.88]	[9.95]
Disclosure Distance_{q-4}			0.145***	0.061**	0.048*	0.057**	-0.003
			[5.31]	[2.29]	[1.81]	[2.14]	[-0.10]
Pseudo R^2	0.002	0.002	0.018	0.020	0.069	0.070	0.094
Quarter FE	No	Yes	Yes	Yes	Yes	Yes	No
Industry × Quarter FE	No	No	No	No	No	No	Yes
N	68,962	68,962	68,962	68,962	68,962	68,962	68,962

Table 7. Controlling for Beta-Shifts at Earnings Announcements
This table presents earnings announcement returns adjusted for beta-shifts at earnings announcements. Portfolios are sorted into three portfolios each quarter based on disclosure distance. Excess $\text{Return}_{0,1}$ is the earnings announcement return less the risk-free rate compounded over event day 0 and 1. Pooled CAPM Adjusted $\text{Return}_{0,1}$ is the intercept from a pooled regression of Excess $\text{Return}_{0,1}$ on the contemporaneous market factor return. Pooled CAPM $\text{Beta}_{0,1}$ is the slope coefficient on the market factor from the pooled market model regression. Out-of-Sample CAPM $\text{Beta}_{q-1,q}$ is the slope coefficient on the market factor from a time series regression of firm specific excess stock returns on the market factor over the intraperiod days between adjacent earnings announcements $(q-1,q)$. t-values are in brackets based on standard errors clustered by stock and trading date (p<.10*, p<.05**, p<.01***). The sample spans earnings announcements over January 2006 - December 2019.

	Disclosure Distance			
	Recent	Mid	Distant	**Distant-Recent**
Excess $\text{Return}_{0,1}$	-0.146	0.037	0.146	0.293***
	[-1.907]	[0.488]	[2.055]	[4.766]
Pooled CAPM Adjusted $\text{Return}_{0,1}$	-0.180	-0.006	0.100	0.280***
	[-3.617]	[-0.117]	[2.059]	[4.707]
Pooled CAPM $\text{Beta}_{0,1}$	1.173	1.055	1.042	-0.131***
	[23.655]	[23.891]	[24.968]	[-2.720]
Out-of-Sample CAPM $\text{Beta}_{(q-1,q)}$	1.057	1.055	1.003	-0.054***
	[123.457]	[125.433]	[109.536]	[-6.971]
N	49,128	48,860	48,837	