DELAYED MEDIA COVERAGE OF EARNINGS NEWS: EVIDENCE FROM CRYPTOCURRENCY MARKETS*

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This paper examines how and to what extent financial media coverage of firms is affected by events in cryptocurrency markets. I find that the media responds to the rising demand for news about the cryptocurrency market by either delaying earnings news coverage or lowering the information content in the earnings news articles. On crypto event days, earnings news articles are shorter, rely more on quantitative data, and contain fewer quotes, suggesting that fewer resources are allocated by media firms to earnings news events. Capital markets react less to earnings announcements on crypto event days, plausibly due to the reduced and delayed coverage of earnings news and higher distraction caused by crypto news coverage. Interestingly, the media increases coverage of firm-specific events in the 30-day period after the crypto event to cater to the informational demand from equity investors.

JEL Classifications: G12, G14, G29, M41

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1.1 Introduction

The timing of information flow in the public capital markets influences equity investors' trading activities and price efficiency (Chan (2003); Rahman and Debreceny (2010)). The financial media creates and disseminates information about firm-specific events in a timely manner to investors (Bushee et al. (2010); Rogers et al. (2016)). Given the significance of financial media in the flow of information, delays in news reporting of firm-specific events can have capital market implications. Thus, it is important to understand factors that disrupt the information flow via financial media. In this study, I examine whether events in the cryptocurrency markets have an effect on the timing of earnings and firm-specific media coverage.

I focus on cryptocurrency markets and earnings announcements for several reasons. First, the cryptocurrency market has grown exponentially from $17 billion in 2017 to $2.2 trillion in 2022. Such abnormal returns in this market have attracted increasing attention from investors as well as regulators for the past few years.[1] For example, retail investors have recently shown immense interest in trading cryptocurrencies using online brokers such as Robinhood and Venmo. This interest is recognized by the media as a source of potential readership. Financial media outlets have been covering crypto events frequently in the business section along with firm-specific news and often on the front page.[2]

[1] In October 2022, Financial Stability Oversight Council (FSOC) issued a report on digital assets highlighting potential threats to the stability of US financial system. See, https://home.treasury.gov/news/press-releases/jy0986

[2] see Appendix B, Panel B for an example of crypto news covered on the front page

Earnings announcements are often pre-scheduled events that occur with certainty every quarter (Noh et al. (2021)). Focusing on earnings announcements allows me to study the media's decision to cover the firm without being concerned about the likelihood of the event's occurrence. This provides me an ideal setting to examine media's choice between independent events. Crypto events are plausibly exogenous to the timing and content of earnings news releases. As media serves a dual (and central) role for investors in equity and cryptocurrency markets, its presence in both markets could result in interesting and relevant spillover effects.

I predict that the media will prefer to cover crypto events over firm-specific earnings announcements. Due to the limited resources to research and publish articles, media firms focus on newsworthy events that satisfy the information demand of their consumers (Core et al. (2008); Miller (2006)). With the increasing popularity of cryptocurrencies, the media has an incentive to publish more crypto-related news articles. A media firm may also prefer covering crypto events because cryptocurrency is an ongoing controversial and sensational topic (Ahern and Sosyura (2015); Call et al. (2018)). There are still many debates around the legality and reliability of cryptocurrencies, so relatively uncontroversial earnings announcements may not get as much attention. Thus, given the media's resource and time constraints, I expect that an increase in coverage of crypto events will lead to a decrease in the immediate media coverage of earnings announcements.

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debates around the legality and reliability of cryptocurrencies, so relatively uncontroversial earnings announcements may not get as much attention. Thus, given the media's resource and time constraints, I expect that an increase in coverage of crypto events will lead to a decrease in the immediate media coverage of earnings announcements.[3]

However, demand for crypto news would be temporary and might not last as long as demand for news about traditional markets. Given the significance of earnings information in the equity market, there will always be demand for firm-specific news by investors. Further, firm- specific events are regular, and news demand about such events is a more sustainable source of readership than crypto events. In the long term, media firms would not want to lose out on readers who are interested in equity markets. I expect the media to satisfy the investors' demand for information about firms in the equity markets, albeit later after the crypto events. This preference towards crypto coverage would result in a 'media drift' i.e., a delay in news coverage of firms.

Alternatively, it is possible that the media's decision to write more on cryptocurrency markets would not impact the coverage of earnings announcements. The media may offset increased coverage of cryptocurrencies with a reduction in articles about other non-equity financial markets, such as commodity markets and foreign exchange markets, rather than compromising on earnings news. It may decide to expand journalistic resources to cover both crypto events as well as earnings events.[4] Journalists involved in writing earnings announcement articles may be different from journalists in the cryptocurrency space, and there may not be significant spillover effects among them.[5] Ulti-

[3]Conversation with a senior journalist also confirmed that media outlets allocate more resources to crypto related events whenever there is a significant event in the crypto markets.

[4]Untabulated analyses reveal that controlling for the capacity of media's operations in the model doesn't change my inferences in the paper. I use number of articles published on a day as a proxy for the level of media's operations.

[5]I present an example of a senior journalist at The Wall Street Journal, Steven Russolillo, in Appendix A. This anecdotal evidence shows that Russolillo wrote more articles about cryptocurrency and less about earnings in recent years. That said, my analyses throughout the paper are at the firm level and not at the journalist level.

mately, whether crypto news coverage influences media coverage of earnings news is an empirical question.

Using a sample of 47,175 earnings announcements from 2015 to 2021, I examine if crypto events result in a delay in media coverage of firms. I define crypto events as days with extreme price movements in Bitcoin after equity trading hours. I first examine if the media takes more time to edit and publish news articles about earnings. I construct a new proxy for the delay in media coverage by computing the time delay between the exact time of the earnings release and the news articles' publication. Conditional on the coverage of the earnings announcement, I find that there is a longer news reporting lag on days with crypto events. Specifically, the media takes around 13% extra time to release full earnings news articles if the earnings is released on a crypto event day.

I further investigate if crypto events result in a multi-day delay in the news coverage of certain firms. Specifically, I find that crypto event days experience lower news coverage of earnings on the day of the earnings announcement. In terms of economic magnitude, the number of earnings announcement articles about a firm on crypto event days is lower by 4% at the mean level. Interestingly, I further find that media coverage of firms increases by 5% during the days [+1,+30] after the event. This suggests that the media may have capitalized on the sudden increase in demand for crypto news but later tries to satisfy the overall investor demand for information about firms in the equity market. These results provide evidence of the existence of media drift in news coverage. Overall, the media delays coverage of firms on the same day as well as for several days due to the crypto events. The above results are robust to using firm fixed effects, year fixed effects, alternative specifications and different measures of media coverage and crypto events.

My main inferences rely on the assumption that media firms reallocate their limited resources between events. To test this assumption, I examine the effect of crypto events on the resources allocated by media firms toward earnings articles. Although I cannot

directly observe the resource reallocation, I capture this construct using the content of the news articles, specifically by treating the article's textual characteristics as a proxy for the level of resources allocated to it. Media produces information by analyzing and commenting on the facts and hard information released by firms, along with gathering quotes from different sources (Guest (2021)). Therefore, I examine the length, the amount of hard information (factual data), and the number of quotes in earnings news articles. I find that earnings news articles occurring within three days of crypto events are shorter than those occurring on non-event days. Further, the amount of hard information in the text, representing more reliance on numbers and less on qualitative analysis, is higher in the earnings news articles coinciding with crypto events. I also find fewer number of quotes in the news articles published on crypto event days. These results are consistent with media allocating more resources towards crypto events, resulting in lower informativeness in the earnings articles.

To further confirm that the resource constraints are driving the delay in media coverage, I examine the effect of crypto events on flash news coverage. Flash articles are short snippets or headlines that do not require a substantial amount of resources, whereas full articles require expert analyses and editorial content by journalists. The argument about the limitation of resources would only apply to full-length articles and not to flash articles. Consistent with this, I do not find any relation between the crypto events and the number of flash news articles about earnings announcements.

The primary incentive for media firms to reallocate their resources to crypto events is the potential readership gain from covering crypto events incremental to coverage of firms. I exploit the variation in readership interest in firms as well as cryptocurrencies to support my inferences. First, using the level of earnings surprise as a proxy for news worthiness, I show that my main results are concentrated in cases where the earnings surprise is below median. This suggests that media prefers covering earnings news over

crypto events when the earnings surprise is high. Second, I examine events related to an unpopular altcoins, Litecoin, to demonstrate that the resource reallocation is driven by investor demand for news stories about popular cryptocurrencies.[6] I find no evidence of lower media coverage of earnings announcements due to extreme price movements in Litecoin, a much smaller cryptocurrency than Bitcoin.

An advantage of the crypto setting is that events in the cryptocurrency markets are significant events that are unrelated to the earnings news. First, in Figure 1, I plot the number of news articles four days before and after the crypto events to show that media responds to these events. I observe a spike in the number of crypto-related articles on crypto event days and a slow decline over the following four days.[7] These results validate my measurement of crypto events and suggest that the media consider crypto events important enough to be covered.[8] Second, I examine if these crypto events are associated with firms' earnings. I do not find any relation between crypto events and firms' earnings, reducing endogeneity concerns about this setting.

Given the media's role in information creation and dissemination in the equity market, favoring the cryptocurrency market in this resource allocation may have capital market consequences (Bushee et al. (2010); Dougal et al. (2012)). I expect that lower coverage of earnings announcements due to crypto events would affect both the pricing of earnings and trading by investors. Similar to Kim et al. (2022), I find that crypto event days are characterized by weaker investor reactions to earnings news and lower abnormal trading volume. I further show that media coverage of crypto articles amplifies the weaker reac-

[6] Altcoins ("Alternative coins") are all cryptocurrencies other than Bitcoin (BTC). Altcoins were created to improve specific limitations in Bitcoin. For example, Ethereum was created with smart contract functionality and uses a different security protocol than Bitcoin. Similarly, Litecoin was created to improve slower transaction processing speeds experienced by Bitcoin.

[7] I also estimate a time-series model to see the effect of crypto events on the number of crypto-related news articles after controlling for other important concurrent events, such as those in commodity markets, foreign exchange markets, equity markets, and the economy. I find consistent results

[8] Using number of monthly clicks on news websites, untabulated analyses show that the months with more number of crypto events get higher number of clicks and users (unique IP visits) suggesting that media also benefits from covering crypto events.

tions and lower retail trading activity around earnings announcements. Consistent with this, I find that crypto event days with high crypto media coverage are associated with slower price discovery. These capital market consequences are a combination of lower information flow to equity markets and higher investor distraction caused by media.

My study makes a twofold contribution. First, I contribute to the media literature by shedding light on how media outlets choose which markets to cover. The few papers that have looked at determinants of media coverage examined whether coverage decisions are based on firms' characteristics (Fang and Peress (2009)), information environment (Solomon (2012); Guest and Kim (2022)), and investor base (Guest et al. (2022)). These studies focus on the media's choice between firms in the equity market. There is limited evidence on the media's coverage decisions across financial markets. My results provide evidence that the media prefers to cover events in newer and exciting financial markets (e.g., cryptocurrency markets) over existing traditional markets (e.g., equity markets). Further, my paper is the first to document and study the media drift i.e., a delay in media coverage. My results suggest that the media understands that the demand for crypto news is temporary and goes back to reporting events in traditional markets after the crypto events. This helps enhance our understanding of the trade-offs faced by the media and their responses to a sudden increase in demand for specific news.

Second, my research adds to the emerging literature on cryptocurrency markets. So far, studies have examined investor trading behavior (Dyhrberg et al. (2018)), trading costs (Easley et al. (2019)), risk factors, and arbitrage opportunities (Rubbaniy et al. (2022)) in cryptocurrency markets. These papers investigate cryptocurrency markets as a standalone market. The links between cryptocurrency markets and equity markets have not been studied in detail. This link is particularly relevant today with the recent Crypto FTX scandal and SEC's new initiatives to protect unsophisticated investors in the equity

market from this speculative asset class.[9] My paper provides timely empirical evidence on the adverse effects of cryptocurrency markets on the information flow in the equity markets via financial media.

1.2 Literature Review and Hypothesis Development

1.2.1 Literature Review

Media's Role in Capital Markets

In the finance and accounting literature, the majority of financial media research has focused on the consequences of the media's timely reporting of events. The media either disseminates information contained in other publicly available documents or produces information by analyzing and contacting the entities covered in the news article. Both information dissemination and creation by the media have been shown to influence equity markets' trading behavior, the pricing of earnings, and cash-flows in the equity market (Tetlock (2010); Bushee et al. (2010); Drake et al. (2014); Fang and Peress (2009)). The media also plays an important role in monitoring firms through investigative reporting of irregular firm events (Miller (2006); Core et al. (2008); Dyck et al. (2010)). Despite the vast amount of literature on the subject, we still have very little understanding of the media's information production function.

[9]On April 5, 2022, the SEC announced new initiatives for developing investor protection in the crypto market. See, https://www.cnbc.com/2022/04/04/sec-chairman-proposes-expanded-protections-for-crypto-investors.html

Media Firms' Coverage Decisions

Recently, a handful of papers have investigated the factors that influence media coverage of firm-specific events. Comparing the political bias of media firms and corporations, Rees and Twedt (2022) find that the tone of earnings announcement news articles is affected by the congruence between the political opinions of the media source and the firms. Call et al. (2018) performed a survey of financial journalists, who revealed that there is a preference for controversial topics among journalists and that journalists use disclosures, along with private communication with firms, when writing news articles. They also find that journalists believe monitoring is one of their most important objectives. Consistent with the findings in this survey, Guest et al. (2022) show that the media considers their investor base in assessing the demand for monitoring, which affects the media's coverage decisions, while Li (2015) examines the influence of journalist characteristics on the informativeness of news articles. Firm's information environment is also a determinant of media's coverage decision. Guest and Kim (2022) provide evidence that media firms use analysts' reports in their news articles about earnings announcements, and Solomon (2012) shows that media coverage is also influenced by the presence of an investor relations officer in the firm.

These papers focus on the media's coverage choice between firms in equity markets, but there is limited evidence on the cross-market coverage choices of media. In this study, I examine the interplay between two different markets i.e. cryptocurrency and equity markets, in influencing media coverage decisions.

Cryptocurrency Markets

Finance and accounting scholars have recently become very interested in cryptocurrencies. For example, the literature examines arbitrage opportunities in cryptocurrency mar-

kets (Makarov and Schoar (2020)), Bitcoin transaction fees (Easley et al. (2019)), and smart contracts in blockchain technology (**?**; Cong and He (2019)). These papers focus on the cryptocurrency market as a standalone market, while few papers consider the role of the cryptocurrency market in other markets. Kim et al. (2022) show how cryptocurrency markets disrupt the pricing of earnings in the equity market while Chang and Cong (2022) present an interesting link between information in blockchain data growth and firm fundamentals. They show that firm-level on-chain data contains value-relevant information about firms in equity markets. They find that the reduction in information asymmetry is the underlying mechanism making blockchain data growth useful for forecasting fundamental and innovation outcomes. With limited evidence on the spillover effects of cryptocurrency markets, this paper studies the adverse effects of crypto markets on the equity markets via financial media.

1.2.2 Hypothesis Development

Media firms make profits from advertising and subscriptions, so they have incentives to publish articles that would expand their readership (Mullainathan and Shleifer (2005)). Due to limited resources to publish articles, they focus on the newsworthy events that satisfy the information demand from consumers (Core et al. (2008); Miller (2006)).[10]

The popularity of cryptocurrencies has grown tremendously among investors after many early investors experienced abnormally high returns. For instance, Bitcoin was the second most searched word on Google in 2017.[11] Due to the rising popularity of cryptocurrencies, it is in the media's interest to write news articles about them. Likewise,

[10] An example of limited resource is the space newspapers have. Media firms take conscious decisions even to choose which events to cover on the front page. Appendix B presents front page of Financial Times on two different dates. The example shows media's preference towards crypto news over earnings news when there is a crypto event.

[11] See https://www.forbes.com/sites/johnkoetsier/2017/12/13/bitcoin-is-the-second-most-searched-global-news-term- of-2017/?sh=6e66e5e75d8b

as more people invested in cryptocurrencies, discussions about crypto have filled social media. Media firms would like to capitalize on investors' information demand about cryptocurrencies and not lose these readers.

As noted earlier, prior literature on the determinants of media coverage focuses on how media firms choose which corporations to cover. The consensus in the literature is that media outlets have limited resources to publish articles, so they cannot cover everything. Further, Ahern and Peress (2022) summarize the incentives of the media, arguing that readers' limited attention also causes the media to focus on limited topics. With these constraints, journalists are bound to write fewer articles about topics with lower information demand.

I expect the media to prefer cryptocurrency-related articles over immediate coverage of earnings announcements due to the rising popularity and the controversial nature of cryptocurrencies. Call et al. (2018) show that journalists are more likely to cover controversial topics. Cryptocurrencies have been a subject of controversy since their introduction, with one side citing the benefits of decentralized and digital currencies and the other side citing cryptocurrency's relatively low future sustainability. Earnings announcement articles are generally not as controversial as cryptocurrencies and, thus less likely to be preferred by the media.

Naturally, equity markets, in aggregate, will have higher information demand than the cryptocurrency market simply because equity markets are significantly larger than the cryptocurrency market. Further, earnings announcements are an important piece of information for investors in the equity market. The media understands the investor demand for news about the firms, and that the demand for cryptocurrency information may be temporary (Goldman et al. (2022)). It is less likely to rely on temporary demand for crypto news and forego coverage of earnings news, even though the former may attract a lot of eyeballs in the short term. I expect that the media will deal with sudden increases

in demand for crypto news by reducing their immediate coverage of earnings announcements and writing about firms afterward, to satisfy the continuous demand from equity investors.

On the day of an earnings announcement, there is often an intra-day time lag between the announcement by the firm and the publication of the earnings news article, primarily due to the time and effort involved in writing and editing these articles. Media preferences for covering crypto events could result in a delay in covering the earnings news on the same day as well. I expect that this news lag will be higher on the crypto event days due to the media's increased attention toward cryptocurrency markets. This leads me to my main hypothesis:

The media delays coverage of earnings news on crypto event days

Even given limited resources, there are several reasons that a given media firm's decision to write more about cryptocurrency markets may not influence their coverage of earnings announcements. The firm may decide to write less about other financial issues instead of writing less about earnings announcements. They may also expand their resources to cover both crypto events and earnings events.[12] Also, the journalists involved in writing earnings announcement articles could be different from the journalists in the cryptocurrency space, and there may be no spillover effects between the groups (Li, 2015). I believe that it would be difficult for a media firm to expand its operations or change its employee base by hiring more journalists from the crypto space in response to a sudden increase in news demand for crypto. Therefore, it is an empirical question whether cryptocurrency markets have any influence on the media's coverage of earnings announcements.

It is important to note that media firms have different utility functions than investors.

[12]Untabulated analyses show that my results are consistent after including the total number of articles at the news outlet level as a control variable, to account for the expansion of media operations.

For example, investors avoid trading in volatile and controversial stocks, but the media prefers writing about such stocks.[13] Similarly, the majority of institutional investors are quasi-indexer investors and dedicated investors who invest in indices and safe stocks, which are often not covered by the media. Due to these different preferences and utility functions, media firms' reactions toward crypto events may not be the same as investors' reactions. Cryptocurrency markets, which may be a distraction for investors, could be an opportunity for media firms to capitalize on the rising interest.

1.3 Data, Sample, and Research Design

1.3.1 Data and Sample

I use Ravenpack Data Analytics for data on the number and timing of earnings news articles, and I use cryptodatadownload.com to find the prices of Bitcoin and altcoins on BitStamp exchange. To evaluate the text of the news articles, I manually downloaded the text of earnings announcement news articles from Factiva, for the S&P 500 firms active from 2015 to 2021. I manually link the Factiva articles to earnings announcements by looking for the firm's name or ticker in the headline of the news article. Following Guest (2021), I exclude news articles with less than 50 words. The sample size for the analyses about the textual attributes of the news articles is smaller than the main sample because it is limited to the S&P 500 firms covered by the media.

I obtain data for the control variables (see Section 1.3.2) from COMPUSTAT, CRSP, IBES, and Thomson Reuters. I use S&P Global's website and Yahoo's website to obtain daily commodity returns and forex returns respectively. I manually collect FOMC dates

[13] Niessner and So (2018) also show that media has a slant towards coverage of negative news events. This preference towards negative earnings is also different from investors' preference of stocks.

from the official Federal Reserve website. Lastly, I use TAQ data and CRSP to compute variables for the market consequences analyses. Since cryptocurrency is a recent emerging market, I focus on the recent years for my empirical analyses. My sample begins with all earnings announcements between 2015 (the first year with significant crypto news) and 2021, and then I drop the earnings announcements with missing information for the control variables. Finally, I arrive at a sample of 47,175 earnings announcements from 2015 to 2021 after excluding observations with missing data.

1.3.2 Research Design

Dow Jones typically publishes two types of articles—full articles and flash articles. Full articles are full-length articles that include editorial content by journalists, while flash articles are primarily headlines that are largely automated and do not involve journalists' input. Publishing full articles involves more media resources than releasing flash news articles. Given my assumption that media firms have limited resources, full articles fit my research question better than flash news. I test my first hypothesis in two ways. First, I examine if media takes longer to publish the full earnings news articles on the same day. Second, I analyze the earnings media coverage on the crypto event days and post-event firm-specific media coverage.

For the same-day delay, I estimate the following model:

$$NewsLag_{i,t} = \alpha + \beta_1 \text{Crypto Event}_t + \sum \beta \text{Controls}_{i,t} + \text{Firm FE} + \text{Year FE} + e_{i,t} \tag{1.1}$$

In equation (1.1), *News lag* is the difference in minutes between the time of an earnings announcement by the firm and the time when the news article is published by a media firm. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls

within three days of an extreme price movement in Bitcoin. I explain the *Crypto Event* variable in detail in Section 1.3.3. I control for each firm's fundamental characteristics, investor base, and information environment. *Size* is the logarithmic value of the market cap of the firm. *BM* is the ratio of the book value of equity to the market value of the firm. *ROA* is income before extraordinary items, scaled by assets at the beginning of the quarter. *Leverage* is the ratio of total debt to total assets. *Institutional Ownership* represents the ratio of shares owned by institutions, as per 13F filings, to the total shares outstanding. *Follow* refers to the number of analysts issuing forecasts for the firm. I also include an indicator variable that is equal to one if the firm is a part of the S&P 500 index. *Last 6M Ret* is the stock returns for the six-month period ending on the last day of the calendar month before the earnings announcement. I include firm fixed effects to control for time-invariant firm characteristics and year fixed effects to control for year-specific variation, and I cluster standard errors at the firm level to account for within-firm serial correlation in the error term. I hypothesize that the media will take longer to report the earnings announcements, and therefore, I expect β_1 to be negative in equation (1.2) and positive in equation (1.3).

For the multi-day delay, I estimate the following models:

$$\begin{aligned} EAMedia_{i,t} = \alpha + \beta_1 \text{Crypto Event}_t + \sum \beta \text{Controls}_{i,t} + \text{Firm FE} \\ + \text{Year FE} + e_{i,t} \end{aligned} \tag{1.2}$$

$$\begin{aligned} Post-event Media_{i,t} = \alpha + \beta_1 \text{Crypto Event}_t + \sum \beta \text{Controls}_{i,t} + \text{Firm FE} \\ + \text{Year FE} + e_{i,t} \end{aligned} \tag{1.3}$$

In equation (1.2), *EA Media*$_{i,t}$ is the number of earnings-related full articles published on the day of the earnings announcement. In equation 1.3, *Post-event Media* is the number of firm-specific articles published by Dow Jones from the next day of earnings release till 30 days after the announcement. I again control for the characteristics, investor base, and

information environment of the firm, which could potentially influence media coverage decisions. I predict β_1 in equation (1.2) to be negative, hypothesizing that earnings announcement news articles will be lower on the crypto event days, and β_1 in equation 1.3 to be positive, expecting that firm-specific news coverage will be higher after the crypto event.

Most of the earnings announcements are pre-scheduled events that occur with certainty every quarter (Noh et al. (2021)). These crypto events are exogenous to the timing and content of the earnings announcements. This is because a large majority of the corporations listed in US do not have any exposure to cryptocurrencies. Further, the cryptocurrency prices are determined by traders and investors from all countries, including the US. The crypto setting thus provides some comfort that the results would not be driven by reverse causality and omitted correlated variables.

1.3.3 Variable Measurement

Crypto Event

Using Bitcoin as a representation of the cryptocurrency market, I define crypto events days as days with an overnight BTC-USD return in the top or bottom decile during my sample period. These extreme price movements in BTC-USD proxy for significant events in cryptocurrency markets. Trading in cryptocurrencies is not bounded by time i.e., they are traded 24 hours a day throughout the year in different markets.[14] I obtain minute-by-minute Bitcoin price information from cryptodownload.com, which uses data related to the Bitstamp exchange.

[14]See https://www.bloomberg.com/news/articles/2022-06-06/most-of-bitcoin-pandemic-gains-came-while-us- stocks-were-closed

I compute overnight returns as those from the first day at 4:00 pm until the second day at 9:30 am. I sort these daily returns from 2015 to 2021 by the level of the returns and group them into deciles. Days with BTC-USD returns in the bottom and top decile qualify as crypto event days. *Crypto Event* is an indicator variable equal to one if an earnings announcement occurs within three days of an extreme price movement in BTC-USD and zero otherwise. If earnings are released by a firm within three days of a day with extreme price movement, I consider those earnings announcements as affected by a crypto event.

EA Media and Post-event Media

EA Media is the number of earnings-related articles published by Dow Jones on the day of earnings announcements. RavenPack (RPNA) tags each news article based on the content and headline of the news article and provides the main topic of the news article. The articles related to earnings are categorized as 'earnings' in the database. Specifically, I use RPNA Dow Jones edition, which includes all the articles published by Dow Jones, and I define earnings news articles as the number of full-length news articles related to earnings published by Dow Jones. *Post-event Media* is the number of firm-specific articles published by Dow Jones from the next day of earnings release till 30 days after the announcement.

News Lag

Journalists and media outlets typically take some time to publish a full article about earnings announcements. There is a lag in the publication of news articles after the earnings information is released by the firm. I obtain the time of the earnings announcement by the firm from IBES, while RPNA provides the timestamp of each news article. The difference between the two is used to measure reporting lag. News lag can only be computed for the earnings announcements, which are covered by the media, which results in a smaller

sample size than the main analyses.

Article Length

Using Factiva, I collect the text of all news articles about earnings for S&P 500 firms active from 2015 to 2021. Factiva provides tagged information, including the article's word count, along with the text when you download the article with indexing. I use these word counts to measure the article length. Following Loughran and Mcdonald (2011), I also compute the number of unique words after excluding the stop words. In untabulated analyses, I find that using the number of unique words instead of the word count in each news article does not change my results or inferences throughout the paper.

Hard-Soft Mix

Financial media articles generally have quantitative information about the topic being reported. For the earnings announcement articles, the text of the news article includes hard information such as the actual earnings numbers, actual EPS, analyst estimates, and percentage change in earnings and revenue. Following Guest (2021), *Hard-soft mix* is the ratio of the count of numbers in the text of the news article to the count of all words in the text of the news article.

NumQuotes

Journalists, in the process of writing news articles, speak to and gather insights from managers, analysts, and experts whenever there is a firm event. The number of quotes is a representation of the amount of time and resources spent by journalists on the event. Following Guest (2021), I count the number of times the text of the news article contains

a quote from an insider or an outsider about the firm event.

Uncertainty

Uncertainty is the ratio of the uncertainty-related words to the number of unique words in the earnings news articles. I use Loughran and Mcdonald (2011) financial dictionary of uncertainty words. The number of unique words is computed by excluding the stop words using the dictionary used in Loughran and Mcdonald (2011).

Table 1 presents descriptive statistics for the variables used in the paper. Earnings announcements get an average of 2 flash articles for each firm, but only around 14% of the firms are covered by media in full articles. 50% of earnings announcements fall on the day of or the day after a crypto event. Dow Jones generally takes around an hour to release a full article about an earnings announcement. These articles average around 500 words, with about 8% of the article being numbers.

1.4 Results

1.4.1 Delayed Media Coverage on the Same Day

Media firms don't publish their earnings announcement articles immediately after the earnings are released: there is an intra-day lag between the earnings announcement and the time of the news article. Crypto events could result in journalists and editors spending more resources on crypto events and less on earnings announcement coverage, causing a greater lag in publishing the article.

Table 2 presents the results for the effect of cryptocurrency markets on the timing of

publishing earnings announcement articles. Specifically, the crypto event days feature a greater delay in publishing earnings news articles. Column 2 of Table 2 shows that the coefficient estimate for the relation between the crypto event indicator and media coverage is 0.095. At the mean level, there is a 13% increase in publication time on the crypto event days compared to non-event days. In other words, media outlets take an extra 8 minutes compared to an average publishing lag of 58 minutes.

1.4.2 Delayed Media Coverage in the Same Month

Using the regression models specified in Equations (1.2) and (1.3), I examine whether the crypto events influence the media coverage of earnings announcements. Table 3 presents the results. Columns 1 and 2 show the results for the number of articles about earnings announcements. Consistent with my hypothesis, I find that the number of earnings announcement articles is negatively associated with the indicator variable for the crypto events. Both columns show statistically significant negative coefficient estimates for the key independent variable *Crypto Event*. The baseline result in Column 2 suggests that on the days of crypto events, the number of earnings announcement articles is lower by 4% at the mean level, compared to the days without any crypto event.[15] This lower media coverage of earnings news on the crypto event days is consistent with prior research using industry news as an instrumental variable for reduction in a firm's earnings announcement coverage (Soltes (2010)).

I then examine the post-event media coverage of firms. Specifically, I look at the media coverage during the 30-day period after the crypto event. News demand for cryptocurrencies varies with the prices in the cryptocurrency market, so I expect a media drift

[15]The coefficient estimate in Column 2 is 0.015, the mean number of earnings announcement articles is 0.14, and the standard deviation is 0.40. At the mean level, a crypto event results in a 0.015 * 0.40/0.14 = 4.29% reduction in earnings announcement articles.

similar to the concept of earnings drift in the stock market. I estimate the model specified in Equation (1.3) with post-event media coverage as the dependent variable.

Table 4 presents the association between crypto events and media coverage after the event. I find a 5% increase in post-event media coverage of firms if the earnings were released on a crypto event day. Figure 2 summarizes my main findings about the multi-day delay in media coverage. It presents the differences in media coverage of affected firms and the rest of my sample around the earnings announcements. Specifically, I plot the coefficient estimate of *Crypto Event* estimating the model specified in equation (1.2) using media coverage during different time periods around the earnings announcement as the dependent variable. On the day of the earnings announcement, the figure shows that earnings news articles are lower for the firms with earnings release coinciding with the days of crypto events. I further show that the media coverage is not different for the affected firms and other firms before the earnings announcements, as evidenced by the statistically insignificant coefficient estimates. Interestingly, I find that the firm-specific media coverage after the earnings announcement is higher for the firms whose earnings news coverage is affected by crypto events. Media coverage of affected firms typically increases after a week from the crypto event. These results suggest that media firms satisfy investors' demand for information about the firms by reverting back to focusing on equity markets after the crypto events.[16]

[16]A potential concern to this explanation is that firms may respond to crypto events independently and media is just covering this response. I examine firm-initiated press releases and the number of 8-Ks filed within a month from the earnings announcement. Untabulated analyses show that number of events occurring after the earnings announcements are not different for affected firms suggesting that the media coverage after the earnings announcements is higher for the affected firms despite the similar number of underlying firm-specific events as unaffected firms.

1.5 Resource Reallocation

1.5.1 Information Content of the News Articles

The main hypothesis in the paper relies on the argument of resource reallocation within the media firm from earnings events to crypto events. To directly test this argument, I should examine the effect of crypto events on the resources allocated by media firms towards earnings articles. I cannot directly observe the efforts and time dedicated to news articles. However, examining the text of the news articles about earnings announcements would help examine the resources spent on the earnings news events. Therefore, I use textual attributes of the earnings news articles. Specifically, I use the length of the article, the amount of soft information, and the number of quotes in the news articles as proxies for the effort dedicated to writing, editing, and publishing the news article.

To test these predictions, I use the model specified in equation (1.1) and replace the dependent variable with either (a) *Article Length*, computed as the word count of the news article, (b) *Hard-Soft Mix*, the ratio of the amount of hard information to the total number of words in the news article or (c) *NumQuotes*, the number of quotes in the earnings news article. The dependent variables and the key variable of interest are explained in section 1.3.3 in detail. Due to the greater focus on crypto events, I expect the word count of the earnings announcement articles to be lower, the reliance on hard information to be higher, and the number of quotes to be lower on the crypto event days, compared to non-event days.

Table 5 presents the results. Columns 1 and 2 suggest that the word count of the news articles is lower on the crypto event days than on non-event days. My results suggest that the earnings announcement news articles are 5% shorter on the crypto event days compared to non- event days. Journalists also rely more on hard information if the earn-

ings are released within three days of the crypto event days. Columns 3 and 4 of Table 5 show that the percentage of hard information is higher by 2.3% on the crypto event days compared to non-event days. Finally, columns 5 and 6 of Table 5 show that the number of quotes is higher by 8% on the crypto event days.

1.5.2 Uncertainty-Related Words

I perform an additional test to see if crypto events change the perception of media outlets about uncertainty. I measure this perception by counting the number of uncertainty-related words in the news articles. I use Loughran and McDonald's (2011) financial dictionary of uncertainty words. Columns 7 and 8 of Table 5 presents the results. Interestingly, I find more uncertainty-related words on the crypto event days. These results suggest that journalists' perceptions of uncertainty are different on crypto event days. I find that the ratio of uncertainty words to total words is higher by 8%, at the mean level, on the crypto event days.

1.5.3 Flash News Coverage

I focus on full articles in my paper as they are a better fit for my research question and hypothesis. Media also distributes flash articles which are primarily headlines or snippets of factual information. These flash articles do not involve journalistic resources and are sometimes performed by automated tools. To confirm that limited media resources play a role in the delay of earnings coverage, I test whether flash news articles are affected by crypto events. Table 6 presents the results. Column 2 of Table 6 shows that there is no significant relation between the crypto event and flash news about earnings announcements. These results corroborate my argument that media firms get affected by crypto

events due to resource constraints.

1.6 Readership Interest

1.6.1 Earnings News Worthiness

Using the absolute value of earnings surprise as a crude proxy for earnings newsworthiness, I examine if the media's decision to delay earnings news varies based on newsworthiness. Media is more likely to cover earnings announcements with a higher magnitude of earnings surprise (Guest et al. (2022); Guest (2021)). This is because news articles about extreme earnings surprises can get more readership. I exploit this variation in earnings surprises and examine if the effect of crypto events varies based on newsworthiness. If the earnings news is newsworthy and the difference between potential readership from crypto events is not significant, the media is less likely to delay the earnings news.

I split the sample into two sub-samples based on the magnitude of an earnings surprise. Table 7 presents the results. Columns 1 to 3 show the effect in my sub-sample of the above-median earnings surprise, and columns 4 to 6 show the effect for the rest of the sample. Results show that my main effect of crypto events on the timing of media coverage is concentrated in the below-median sample. This is consistent with media delaying earnings news that is less newsworthy. This may be attributable to a lower potential loss of readership.

1.6.2 Altcoins

The measure of a crypto event in my study is based on the most prominent cryptocurrency, Bitcoin. One plausible reason for media firms' reducing earnings announcement articles is the higher demand for news about Bitcoin. However, there are other altcoins in the cryptocurrency market which are not as prominent as Bitcoin or its major competitor Ethereum. Therefore, news demand for smaller altcoins such as Litecoin would be much lower. To examine whether this lower news demand influences the distraction effect documented so far, I test the effect of extreme price movements in LTC-USD (Litecoin's price in USD) on media coverage of earnings announcements.

I estimate the regression models specified in Equations (1.1), (1.2) and (1.3) and replace the crypto event measure with a Litecoin event measure, similarly defined based on the price movements of LTC- USD instead of BTC-USD. I understand that there could be a return correlation among cryptocurrencies. To mitigate these concerns, I drop the observations when a day has a crypto event based on both BTC-USD returns and LTC-USD returns. Panel A of Table 8 presents the results. I find no significant relation between Litecoin events and media coverage decisions, article timing, or article content. These results confirm that news demand plays a role in the media's decision to cover cryptocurrency markets.

1.6.3 Shock Validation

My argument is based on the presumption that media firms will cover crypto events. To validate this assumption and my proxy measure for a crypto event, I examine the relation between my proxy and the number of crypto-related news articles. I first test if my measure of crypto events is associated with media firms writing more articles about

crypto. Figure 1 plots the number of crypto-related news articles on nine days around the crypto event day. I observe a spike in the number of crypto-related articles on the event day, followed by a slow decline over the next four days.

I also test my assumption and measure using a regression model to see if these events lead to news coverage about crypto. I control for events in foreign exchange markets, commodity markets, and the number of earnings announcements on the day as a proxy for events in equity markets. The results suggest that despite other events happening around the same day, the media prefers to write about cryptocurrencies. Here is the regression estimate:

$$\begin{aligned} CryptoArt_t = \alpha + \beta_1 Crypto\ Event_t + \beta_2 Forex\ Return_t + \\ \beta_3 Cmdt\ Return_t + \beta_4 FOMC_t + \beta_5 Busy\ EA\ Day_t + \sum \beta Controls_t + Year\ FE + e_{i,t} \end{aligned} \tag{1.4}$$

In Equation (1.4), *CryptoArt* represents the number of articles related to cryptocurrencies. $CryptoEvent_t$ is an indicator variable equal to one if the earnings announcement falls within two days of an extreme price movement in Bitcoin. To control for events in foreign exchange markets, I use the absolute value of USD/EUR returns as a proxy for foreign exchange returns. I also control for events in commodity markets by including commodity index returns in the model. $FOMC$ is an indicator variable if there is a FOMC announcement on day t. This will control for macro events on that day. $Busy\ EA\ Day_t$ is the number of earnings announcements on day t. The model includes year fixed effects. I cluster standard errors at the year-quarter level.

Table 9 presents the results. Columns 1 and 2 present the results with and without control variables, respectively. I find that on days of extreme price movements in the cryptocurrency market, there is a 61% increase in the number of crypto-related news articles at the mean level. These results confirm that the media tends to cover crypto events, even after controlling for macro events and events in other financial markets.

The maintained assumption in my study is that price movements in Bitcoin are not associated with the earnings events in the equity markets. Specifically, overnight Bitcoin returns are plausibly exogenous to the timing and information contained in the earnings announcements. The inference that media delays coverage due to crypto events relies on the said assumption. I directly test this assumption by examining if earnings surprises on crypto event days are different from non-crypto event days. Table 10 presents the results. Columns 1 and 2 suggest that earnings surprise and the absolute value of earnings surprise are not associated with crypto events. These results confirm that there is no information flow about earnings between equity and crypto markets.

1.7 Capital Market Consequences

Firms with higher media coverage of an earnings announcement experience a higher market reaction to earnings information (Bushee et al. (2010)). So far, my results indicate that the earnings announcements receive lower media coverage on days with a crypto event. This decrease in the earnings announcement coverage on the crypto event days must thus result in a weaker market reaction to earnings information. I examine the trading behavior and market reaction for the earnings releases on the crypto event days. Using cumulative abnormal returns within two days of the earnings release and the decile ranking of earnings surprises, I estimate the following regression model:

$$\begin{aligned} CAR[0,1]_{i,t} = \alpha + \beta_1 Crypto\ Event_t + \beta_2 SUE_{i,t} + \\ \beta_3 Crypto\ Media_t + \beta_4 SUE\ x\ Crypto\ Event_t + \beta_5 SUE\ x\ Crypto\ Media_t \\ + \beta_6 Crypto\ Event\ x\ Crypto\ Media_t + \beta_7 SUE\ x\ Crypto\ Event\ x\ Crypto\ Media_t + \\ \sum \beta Controls_{i,t} + Firm\ FE + Year\text{-}Quarter\ FE + e_{i,t} \end{aligned} \tag{1.5}$$

In Equation (1.5), CAR represents cumulative abnormal returns in the window [0,1], i.e. from one day before to one day after the earnings announcements. SUE is a decile ranking of earnings surprises, defined as the difference between actual EPS and median analyst earnings estimates, scaled by price. *Crypto Event* is defined in detail in section 1.3.3. *Crypto Media* is an indicator variable equal to one if the media published an above-median number of crypto-related articles on a given day.[17] I expect β_7 to be negative due to lower media coverage on the crypto event days. I control for the size of the firm (*Size*), book-to-market ratio (*BTM*), number of analysts following the firm (*Follow*), last six months' return (*Last 6M Ret*), number of earnings announcements on the same day (*Busy EA day*), and the reporting lag (*Replag*). I include firm and year-quarter fixed effects. Standard errors are clustered at the firm level.

Next, I estimate the following regression model to examine the effect on trading volume in the equity market:

$$\begin{aligned} TV[0,1]_{i,t} = \alpha + \beta_1 Crypto\ Event_t + \beta_2 Abs\ SUE_{i,t} + \beta_3 Crypto\ Media_t + \\ \beta_4 Crypto\ Event\ x\ Crypto\ Media_t + \sum \beta Controls_{i,t} + Firm\ FE + Year\text{-}Quarter\ FE + e_{i,t} \end{aligned} \tag{1.6}$$

In Equation (1.6), TV [0,1] represents one of the following dependent variables: (a) retail trading volume, or (b) institutional trading volume. I control for the absolute value of an earnings surprise. I also control for the size of the firm (*Size*), book-to-market ratio (*BTM*), number of analysts following the firm (*Follow*), last six months' return (*Last 6M Ret*), number of earnings announcements on the same day (*Busy EA day*), and the reporting lag (*Replag*). I include firm and year-quarter fixed effects. Standard errors are clustered at the firm level.

[17] Using decile rankings and a continuous variable based on the number of crypto-related articles does not change my results and inferences in the paper (untabulated).

Tables 11 show the results. Panel A presents the effect on investors' immediate reactions to the earnings release. Consistent with Kim et al. (2022), I find weaker investor reactions on crypto event days than on non-event days. The investor reaction to earnings information is much weaker when the media publishes an above-median number of crypto-related articles. Column 2 of Table 11 shows that ERC on the crypto event days with above-median crypto-related articles is lower by around 10% (0.001/0.010) compared to other days.

Panel B presents the effect on the retail and institutional trading volume. I find that retail and institutional trading volume in the equity market are both lower on crypto event days when compared to non-event days. Column 2 of Panel B shows that there is a 5.6% decline in retail trading volume on the crypto event days with above-median crypto-related articles. Columns 7 and 8 present the effect of crypto events on the institutional trading volume. Institutional trading volume is lower by 2% on the crypto event days. Columns 5 and 6 document the role of Crypto Media in the relation between Crypto Event and institutional trading volume. Although media coverage has been shown to influence both retial and institutional investors, I do not see any effect of crypto-related news media coverage on institutional trading volume (Bushee et al. (2020); Rogers et al. (2016)).

To support my inferences about capital market consequences, I further examine the effect of crypto events and crypto media coverage on the price discovery. Prior literature shows that information intermediaries speed up price discovery around earnings announcements (Guest (2021); Drake et al. (2017); Twedt (2016)). As my main inferences speak to the timeliness of the news arrival in the capital markets, I examine if delayed media coverage resulted in an adverse effect on the price discovery process. Following Bushman et al. (2010) and Butler et al. (2007), I captures the speed of the price discovery using the Intra Period Timeliness (IPT) measure. I use the measurement window of 5 days. For each day, I first compute the cumulative abnormal returns from day zero to that

day over day [0,5] relative to the earnings news. I then scale the sum of these cumulative returns by the cumulative abnormal returns over the six day period. Higher values of *IPT[0,5]* suggest faster price discovery around earnings news.

Table 12 presents the effect of crypto events and crypto media coverage on *IPT[0,5]*. Column 3 and 4 show that the coefficient on the interaction term *Crypto Event x Crypto Media* is negative and statistically significant at the 5% level. These results suggest that reduced and delayed media coverage along with higher investor distraction caused by crypto media coverage results in a slower price discovery.

Overall, market consequences are consistent with the evidence in prior literature showing stronger market reactions to earnings releases for firms with higher media coverage. This also confirms our main finding that media coverage is influenced by crypto events.

1.8 Robustness Tests

1.8.1 Measure of Cryptocurrency Events

I use extreme price movements in BTC-USD as a proxy for cryptocurrency events. To show that my results are not sensitive to how I define extreme price movements, I re-perform the main analyses with a continuous variable. Specifically, I use the absolute value of the compounded three-day Bitcoin overnight return instead of the Crypto Event indicator and re-estimate the model specified in Equation (1.1). Panel A of Table 13 presents the results. My inferences do not change after using this measure instead of the Crypto Event indicator. As expected, the number and length of earnings announcement articles are negatively associated with the absolute value of the Bitcoin overnight returns.

Media firms take a longer time to release earnings announcement articles if the magnitude of Bitcoin overnight returns is high. The amount of hard information in the text of the news articles is also positively associated with the magnitude of Bitcoin overnight returns.

1.8.2 Measure of Earnings Announcement Media Coverage

I have used articles published by Dow Jones throughout the paper. As another robustness check, I examine whether my results can be generalizable to other media outlets. I expand the news media sample to include traditional financial media sources. Specifically, I include Bloomberg, Reuters, CNN, CNBC, The Washington Post, The New York Times, and Financial Times, along with Dow Jones, in the news sources. Panel B of Table 11 shows the results for the delay in news coverage of earnings announcements. Overall, I find that the results, when including other financial media sources, are consistent with my main findings. These results suggest that my results are not confined to articles published by Dow Jones.

1.8.3 Pseudo Crypto Event

To test if the lower news coverage of earnings announcements are indeed linked to crypto events, I define pseudo-events as occurring three days before the actual crypto event and examine the effect of these pseudo-events on the news coverage of earnings announcements. I replace Crypto Event in Equations (1.1), (1.2) and (1.3) with Pseudo Event, which is an indicator variable equal to one if the earnings are announced three days before the crypto event. This falsification test is performed to address the concerns that the results are attributable to a general time trend during my sample period. Non-results from this

test will confirm the significance of the crypto events. Panel B of Table 8 presents the results. The coefficient estimate for the pseudo-crypto events is statistically insignificant from zero, suggesting that there is no relation between the pseudo-events and earnings announcements. This provides confirmation that the distraction effect shown in the baseline results is attributable to the timing of crypto events.

1.9 Conclusion

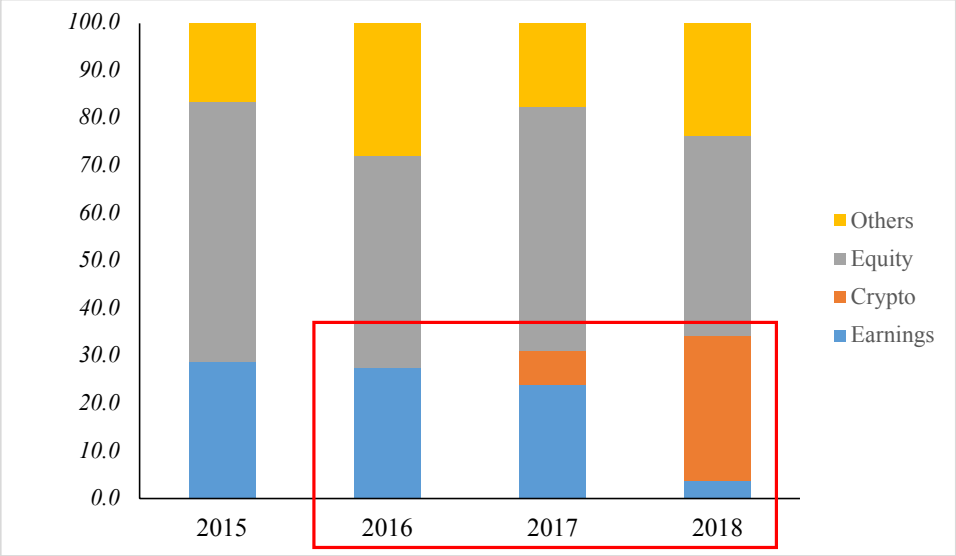
My study examines the spillover effects of cryptocurrency markets on media coverage of the equity markets. Media outlets tend to cover crypto events when there are extreme price movements in the cryptocurrency markets. As a result, there is a decline in immediate news coverage of earnings announcements. However, media corrects their mistake by covering more about firms in the same month. This delay in earnings news coverage can also be observed at the intra-day level. Crypto events also influence the content of earnings news articles. The earnings news articles are shorter on crypto event days. Journalists also rely more on the hard information in the news articles as a result of allocation of less resources toward earnings announcements. I observe that the media decides not to cover earnings announcements only when there are events involving prominent coins, such as Bitcoin, but not for events involving smaller altcoins such as Litecoin.

My study contributes to both the media and cryptocurrency literature. This is the first paper to document and examine the delay in news coverage. Specifically, my findings show that media coverage of earnings news gets temporarily affected by the crypto events. Media understands the importance of information demand for firms and writes more about the firms after the crypto event. As a result of immediate lower coverage by the media, the pricing of earnings (for firms in the equity market) is slower, and trading volume around earnings announcements is lower. Cryptocurrency markets have recently

attracted significant attention from investors, firms, and regulators. This study provides timely evidence of the spillover effects of cryptocurrencies on the equity market via financial media.

APPENDIX

Appendix A: Anecdotal Evidence of A Journalist



The figure above presents the composition by percentage of different types of news articles by Steven Russolillo, published in The Wall Street Journal from 2015 to 2020. Blue, Orange, Grey, and Yellow bars, respectively, represent the proportion of earnings news articles, crypto-related articles, equity markets articles, and articles about other markets. There is a decline in the proportion of earnings news articles from 2016 to 2018 coinciding with an increase in the proportion of crypto-related articles.

Appendix B: Front Page of Financial Times

Panel A: October 20, 2022

FINANCIAL TIMES

THURSDAY 20 OCTOBER 2022 — INTERNATIONAL NEWSPAPER OF THE YEAR — USA $2.50 Canada C$3.00

Cash is king again — and banks want a share
BROOKE MASTERS, PAGE 17

European industry is turning down the heat
BIG READ, PAGE 15

Nestlé and P&G squeezed as consumers tighten belts

- Third-quarter sales volumes tumble
- Shoppers recoil from price increases

JUDITH EVANS — LONDON
STEFF CHÁVEZ — CHICAGO

The two biggest makers of consumer goods have been hit by shoppers around the world tightening their budgets and turning to supermarkets' own-brand products, with Nestlé yesterday warning prices would have to rise further.

Sales volumes at Switzerland's Nestlé and US-based Procter & Gamble fell in the third quarter as inflation surged and consumers' tolerance for steep price increases began to crack.

Mark Schneider, chief executive of Nestlé, warned of more price rises ahead as energy and labour costs mount over the next few months.

"Obviously some of the pricing will have to continue [rising] . . . our pricing is still catching up with the hit we have taken from inflation," he said.

P&G, which generates more than half of its revenues outside the US, is also suffering from a strong dollar. Andre Schulten, its chief financial officer, said: "We fully expect more volatility in costs, currencies and consumer dynamics as we move through the fiscal year."

Price rises led by food are straining consumer budgets globally: Europe especially has been affected by the war in Ukraine and the resulting energy crisis. Eurozone inflation topped 10 per cent in the year to September, while UK inflation is also in double digits.

Schulten added: "We see high pressure on the European consumer, with high inflation and, certainly . . . energy costs will hit the consumer over the winter period."

Makers of global brands have so far fared better than expected as inflation has soared, but the squeeze has begun pushing more consumers towards cheaper products and own-brands. Companies' margins are also coming under pressure as they race to push through cost rises.

P&G raised prices by 9 per cent year-on-year across its product lines in the quarter to September, while Nestlé pushed through a 7.5 per cent year-on-year rise in the first nine months of 2022, its biggest in decades.

But P&G's sales volumes still declined 5 per cent in the quarter, while Nestle's real internal growth — a measure of sales volumes and consumers' product choices — slid 0.2 per cent.

Nestlé's like-for-like net sales growth reached 8.5 per cent in the first nine months, its highest rate in 14 years, propelled by the price increases. The maker of Maggi noodles, Kit Kats and Nespresso coffee capsules said it expected full-year sales growth of 8 per cent.

P&G, which makes Tide detergent and Tampax tampons, expects sales volumes to fall by 1 to 3 per cent in its fiscal year, down from its previous forecast for flat to 2 per cent growth. It also forecast a $1.2bn hit from the strong dollar this fiscal year, or a 6 per cent knock to its sales growth.

The US-based group declined to say whether it would raise prices further, but acknowledged limits to its pricing power, particularly in Europe.

James Edwardes Jones, an analyst at RBC Capital Markets, said Nestlé was "coping admirably" but noted that sales of its bottled water, prepared foods and confectionery had slowed. "Even Nestlé, it could be argued, is starting to show early signs of tougher conditions."

Lex page 18

Uphill challenge Hong Kong seeks to attract global talent and regain hub status after Covid

Hong Kong yesterday unveiled a new scheme to woo global talent.

A US$3.8bn fund has been launched to attract businesses back to Hong Kong after China's security crackdown and strict Covid-19 controls damaged its status as a global financial hub.

New measures include visa and tax concessions for skilled foreign workers as well as incentives for long-term expats to buy houses. Businesses focused on healthtech, AI, data science and fintech will be prioritised.

At least 140,000 people have left the city of 7.5mn after the double blow of pro-democracy protests in 2019 and the pandemic.

Hong Kong chief executive John Lee said: "The government will proactively trawl the world for talent. We have to present the true picture of Hong Kong to the world."

However, Covid rules preventing tourists from visiting bars and restaurants during their first three days in the city remain in place.

Luring global talent page 4

Briefing

- **Food prices push UK inflation to 40-year high** The reading of 10.1 per cent for September has raised pressure on the Bank of England for a big rise in interest rates when it meets on November 3.— PAGE 2
- **Pakistan flood loan plea** Islamabad has asked global lenders for billions of dollars in loans to rebuild the country after calamitous floods uprooted 33mn people.— PAGE 4
- **Super League in revamp** New chief Bernd Reichart has said he wants the elite European football project to be relaunched, after it collapsed amid anger from fans and clubs.— PAGE 6
- **Police raid Signa group** Austrian police have confiscated devices at the HQ of the owner of department store Selfridges, as part of a probe into corruption at the top of government.— PAGE 8
- **Viewer surge lifts Netflix** The TV streaming platform's stock has been boosted after it revealed shows such as *Stranger Things* had helped it add 2.4mn subscribers.— PAGE 6; LEX, PAGE 18
- **Australia pilot probe** The military has opened a probe into claims ex-air force personnel were made lucrative offers to teach Chinese pilots how to fly western attack aircraft.— PAGE 4

Datawatch

Consensus cracks
Views on US aid for Ukraine (%)
Not enough — About right — Too much — Not sure

Republican: Mar, Sep
Democrat: Mar, Sep
0 20 40 60 80 100
Source: Pew Research Center

The US has spent more than $60bn on economic and military aid to Ukraine since the Russian invasion in February thanks to big bipartisan majorities in both chambers. But that consensus may be fraying as Republican sentiment shifts

Panel B: November 23, 2022

FINANCIAL TIMES

WEDNESDAY 23 NOVEMBER 2022 — INTERNATIONAL NEWSPAPER OF THE YEAR — USA $2.50 Canada C$3.00

Why more oil is part of Saudi green agenda
BIG READ, PAGE 15

Qatar critics beware as global power shifts
JANAN GANESH, PAGE 17

FTX chief ran crypto group as his fiefdom, court hears

- Disclosures from bankruptcy probe
- Bankman-Fried spending revealed

TABBY KINDER SAN FRANCISCO

FTX founder Sam Bankman-Fried ran the cryptocurrency exchange as his "personal fiefdom" before its implosion, according to a lawyer working on the bankruptcy, with "substantial amounts of money" spent on items unrelated to the business such as holiday homes in the Bahamas.

"We have witnessed one of the most abrupt and difficult collapses in the history of corporate America," James Bromley of Sullivan & Cromwell told a US court yesterday. He added that bankruptcy proceedings had "allowed every one for the first time to see under the covers and recognize the emperor had no clothes".

FTX filed for US bankruptcy protection on November 11 as its customers fled and executives discovered billions of dollars in missing funds, exacerbating turmoil in cryptocurrency markets.

The team of lawyers charged with winding down FTX is attempting to identify a complex web of assets in order to repay creditors. The case has been marked by allegations of misconduct and major governance failures, as well as a jurisdictional dispute between the US and the Bahamas, where FTX's small inner circle ran the business.

Bromley said the bankruptcy team had found that "substantial funds" were transferred from the exchange to Bankman-Fried's crypto hedge fund Alameda Research and "substantial amounts of money were spent on things not related to the business".

This included around $500m of real estate in the Bahamas that were "homes and vacation properties used by the senior executives" of FTX, he said. The Alameda hedge fund also appeared to have used FTX funds to make billions of dollars of illiquid venture investments in funds such as Sequoia Capital and companies like Elon Musk's SpaceX and Boring Company.

FTX filed for protection following an "effective run on the bank", Bromley said, after rival exchange Binance moved to liquidate its FTT tokens, the cryptocurrency issued by FTX. The token lost 80 per cent of its value in two days, tumbling from a peak of $96bn in total market value to just $423mn.

Bromley also revealed that lawyers working on the bankruptcy would probe a transaction last year between FTX and Binance. The rival exchange run by Changpeng Zhao divested an equity stake in FTX for around $2.1bn in cash and cryptocurrencies.

FTX is now led by new chief executive and chief restructuring officer John J Ray III.

Bromley added that the company was working with the US government and global regulators, including the justice department and Securities and Exchange Commission.

Prosecutors working with the Justice department's Southern District of New York and the Financial Crimes Investigation Branch of Bahamas have launched two separate criminal probes into the implosion of FTX.

A list of the 20 largest creditors in the FTX businesses has been sealed by the court. But US bankruptcy judge John Dorsey told lawyers to disclose names of people and entities on the creditors' committee, likely to include institutional investors with stakes in FTX.

Suppression strategy Lockdowns return as China struggles with new Covid outbreaks

An epidemic control worker stands on an empty road in Beijing's business district during rush hour yesterday.

Chinese officials have once again locked down large parts of the country as they struggle to contain the latest outbreak of coronavirus.

In stark contrast to more developed countries, which have largely learnt to live with Covid-19, China is still trying to suppress the virus. In a bid to bring cases under control, local governments have closed restaurants, switched schools to online studies and asked people to once more work from home.

The country yesterday reported almost 28,000 new cases, with outbreaks in Beijing, the southern manufacturing hub of Guangzhou and the south western city of Chongqing.

Almost three years after Covid first hit the city of Wuhan, vaccination rates among vulnerable sections of China's population lag behind those in many other countries. Despite recent revisions to its strategy, Beijing has said it will stick to its strict zero tolerance policy, with mandatory testing, quarantines and lockdowns.

Hong Kong loses out page 3
Covid surge page 6
Zero-Covid winners page 10
Lex page 18

Briefing

- **Kremlin issues fresh threat to cut Europe's gas** Moscow has threatened to restrict supplies to Europe via the last remaining route from as early as next week. — PAGE 2 | FT VIEW, PAGE 16 | CONSTANZE STELZENMÜLLER, PAGE 17
- **Top ESG funds lose rating** European asset managers have decided to downgrade ESG funds badged with the top sustainability rating after regulatory scrutiny and greenwashing claims. — PAGE 4
- **More time for Trump spac** Investors have extended until September the deal deadline for a blank-cheque group that plans to take Donald Trump's media business public. — PAGE 6
- **Twitter revamp put back** Elon Musk has postponed the relaunch of Twitter Blue, the authenticity feature, until there is a "high confidence of stopping impersonation". — PAGE 6
- **Iran boosts enrichment** Tehran has said it will expand its nuclear enrichment programme, in a rebuke to a UN watchdog that suggested that the country had undeclared nuclear sites. PAGE 4
- **Hong Kong loses lustre** The city has lost its title as home to the highest retail rents to New York, after pandemic recovery was hit by new Covid curbs that deterred visitors. PAGE 3

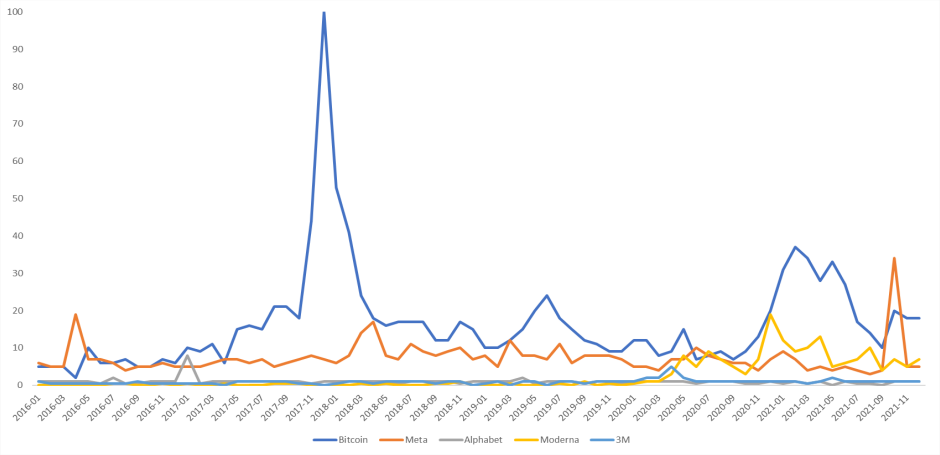
Datawatch

Presidential plunge
% of voters backing a 2024 White House bid

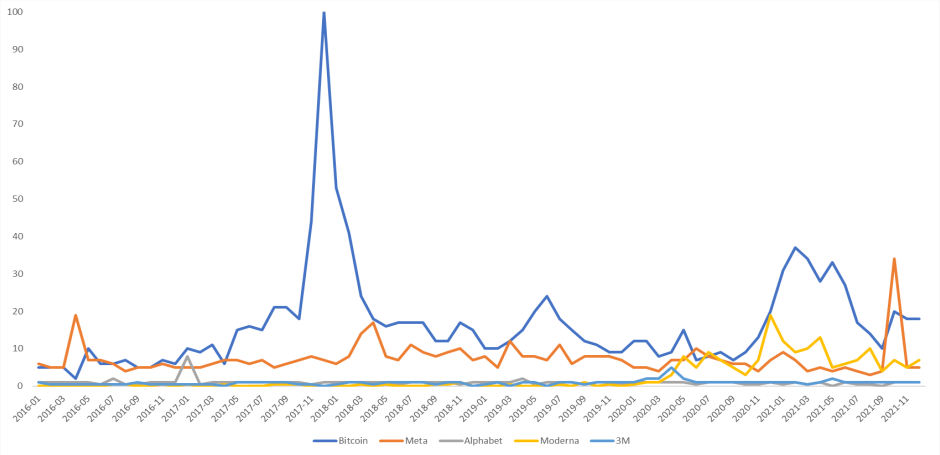
Voter support for 2024 presidential runs has slumped recently for both Joe Biden and Donald Trump. Republicans have sought to distance themselves from Trump amid his backing for controversial candidates in the US midterm elections

Appendix C: Google News Search Volume

Panel A: Google News search volume for Bitcoin vs Meta, Alphabet, Moderna, and 3M



Panel B: Google News search volume: Bitcoin vs, Apple, Tesla, Ford, and Amazon



The figure above plots the Google News search volume index for the term 'Bitcoin' against the Google News search volume index for prominent corporations during my sample period. Panel A plots the firms with lower news demand than Bitcoin and Panel B plots the firms that either had similar or more news demand than Bitcoin.

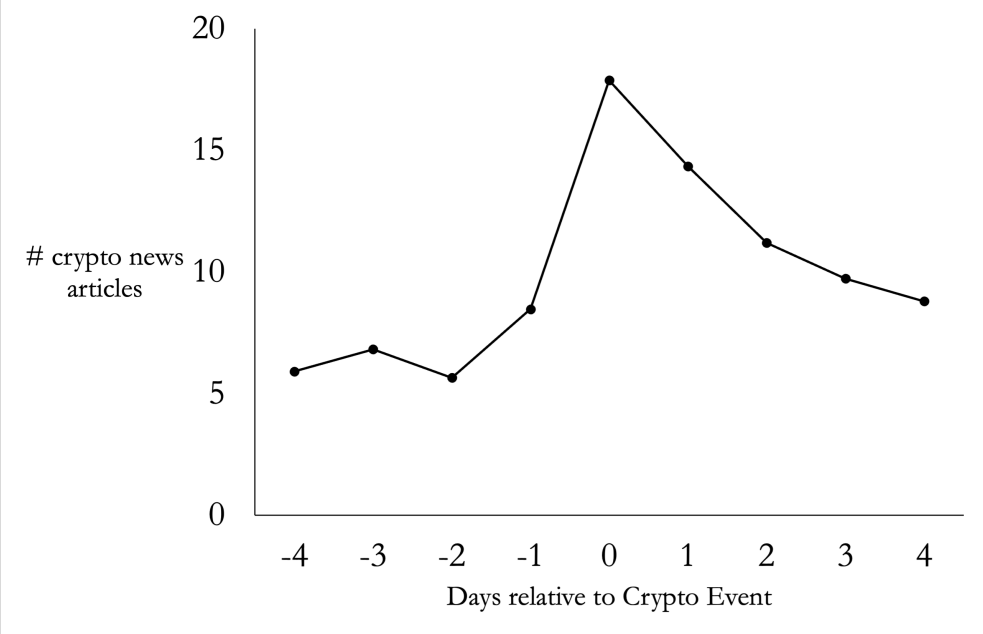
Appendix D: Variable Definitions

Variable	Variable Definition
Media variables	
EA media	Number of earnings-related news articles published by Dow Jones (RPNA)
News lag	Difference in minutes between the time of an earnings announcement and the time of publication of a news article (RPNA/IBES)
Article length	Word count of the news article (Factiva)
Hard-soft mix	The count of numbers scaled by total amount of words in the text of the news article (Factiva)
Uncertainty	Number of uncertainty-related words (LM Dictionary) as a percentage of the total number of words in the text of the news article (Factiva)
Post-event media	Number of full articles about a firm during the days [+1,+30] published by Dow Jones (RPNA)
Flash News	Number of earnings-related flash articles published by Dow Jones (RPNA)
Explanatory variables	
Crypto Event	An indicator variable equal to one if the Bitcoin returns during after-trading hours on a day is either in the top or bottom decile during my sample period (cryptodownload.com)
BTC-USD Return	Absolute value of Bitcoin after-trading hours returns (cryptodownload.com)
Pseudo Crypto Event	An indicator variable equal to one if day which falls three days before the Crypto Event
Litecoin Event	An indicator variable equal to one if the Litecoin returns during after-trading hours on a day is either in the top or bottom decile during my sample period (cryptodownload.com)
Controls	
Size	Log(1+Market value of equity). Market value of equity is shares outstanding (shrout) times stock price (prc) at the end of the corresponding quarter, in billions of dollars (CRSP)
BTM	Book value of the equity scaled by the Market Value of Equity (COMPUSTAT/ CRSP)
ROA	Income before extraordinary items as a percentage of the assets at the end of the corresponding quarter (COMPUSTAT)
Leverage	Sum of short-term debt and long-term debt scaled by the assets at the end of the corresponding quarter (COMPUSTAT)
% Institutional Investors	Number of shares owned by institutions, as per 13F filings, scaled by total shares outstanding at the end of the corresponding quarter (Thomson Reuters)

– continued from previous page

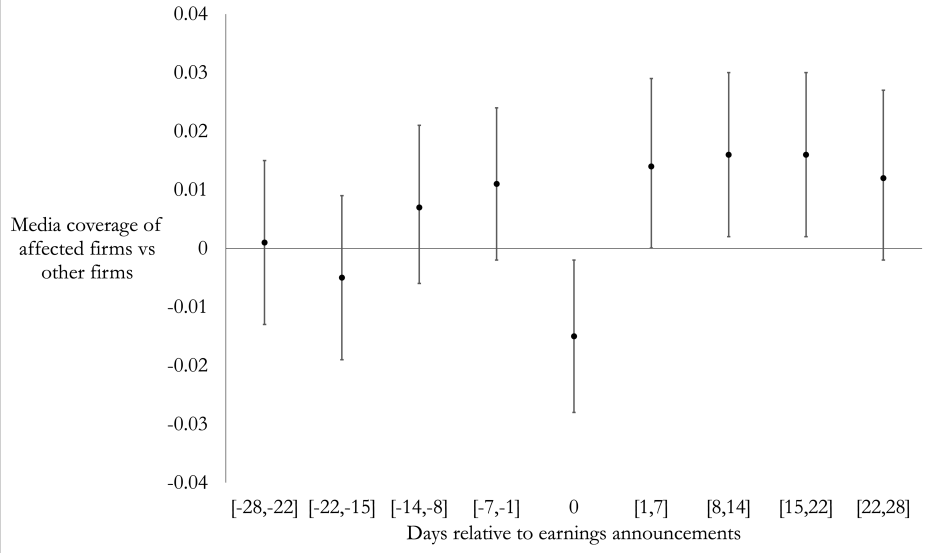
Variable	Variable Definition (Data Source)
Follow	Number of analysts which provided earnings estimates for the quarter (IBES)
SP500Ind	An indicator variable equal to one if the firm is a part of the S&P 500 index and zero otherwise (CRSP)
Busy EA day	Number of earnings announcements by other firms on the day of earnings announcement by the focal firm (COMPUSTAT)
Last 6M Ret	CRSP return for the six months ending on the corresponding quarter end (CRSP)
Replag	The number of days between the fiscal quarter end date and the date of the earnings announcement (COMPUSTAT)
Market consequences variables	
CAR[0,1]	Industry- and size-adjusted returns (in percentage) for the two days including the earnings announcement day (CRSP/ Kenneth French Website)
SUE	Decile ranking of earnings surprise, i.e., the difference between the actual EPS and the median analyst estimate, scaled by the price
Abnormal Trading Volume	The trading volume during the earnings announcement window [0,1] minus the firm's trailing average trading volume over days [-54, -4]. Trading volume is measured as the average daily shares traded, scaled by total shares outstanding
Retail TV	Retail Abnormal Trading Volume during the two days including the earnings announcement day. I identify retail trades using the methodology from Boehmer et. al. (2021) (TAQ)
Institutional TV	Institutional Abnormal Trading Volume during the two days including the earnings announcement day. I identify institutional trades using the methodology from Boehmer et. al. (2021) (TAQ)
IPT	$IPT_{i,t} = \sum \frac{CAR_{i,t}^{[0,j]}}{CAR_{i,t}^{[0,5]}} + 0.5$

Figure 1: Crypto Events and Media Coverage of Cryptocurrencies



This figure plots the number of crypto-related news articles published by Dow Jones four days before and after the crypto event day. The day t represents the day with an extreme price movement in the BTC-USD price. Crypto-related news articles are full articles related to any cryptocurrency, identified using RavenPack News Analytics database's entity mapping file.

Figure 2: Firm-Specific Media Coverage Around Crypto Events



The figure plots the coefficient estimates of Crypto Event along with 90% confidence intervals by estimating the model specified in equation (1.2) using media coverage during different time periods around the earnings announcement. The dashed line represents the occurrence of Crypto Event. It presents the differences in earnings news articles about affected firms and other firms on the day of the earnings announcement. It also shows the differences in firm-specific media coverage four weeks before and after the earnings announcement. Affected firms are the firms with earnings announcements on or two days after the crypto events. Crypto events are defined in detail in Appendix D.

Table 1: Descriptive Statistics

	(1) N	(2) Mean	(3) SD	(4) P25	(5) P50	(6) P75
EA Media	47,175	0.144	0.398	0.000	0.000	0.000
Post-event Media	47,175	1.128	3.256	0.000	0.000	0.000
Flash News	47,175	2.306	1.214	2.000	2.000	3.000
Post-event Flash News	47,175	0.011	0.103	0.000	0.000	0.000
News Lag	5,796	57.476	80.817	20.000	50.000	87.000
Article Length	4,308	501.447	421.731	226.000	435.333	643.000
Hard-Soft Mix	4,308	8.477	2.951	6.210	8.099	10.463
NumQuotes	4,308	1.166	1.401	0.000	0.800	1.750
Uncertainty	4,308	0.005	0.004	0.002	0.004	0.007
Crypto Event	47,175	0.496	0.500	0.000	0.000	1.000
CAR[0,1]	47,175	0.001	0.091	-0.047	-0.000	0.049
Retail TV	47,175	2.664	4.184	0.501	1.406	3.116
Institutional TV	47,175	1.943	2.237	0.514	1.372	2.643
Market Value of Equity	47,175	8.912	26.093	0.368	1.350	4.810
BTM	47,175	0.433	0.469	0.160	0.326	0.592
ROA	47,175	-1.389	6.676	-1.739	0.582	1.854
Leverage	47,175	0.276	0.230	0.076	0.251	0.414
Institutional Ownership	47,175	0.679	0.297	0.512	0.751	0.895
Follow	47,175	8.765	7.013	3.000	7.000	12.000
Return Volatility	47,175	0.027	0.017	0.015	0.023	0.034
SP500 Ind	47,175	0.146	0.353	0.000	0.000	0.000
Busy EA day	47,175	302.465	182.886	151.000	277.000	451.000
Last 6M Ret	47,175	0.279	0.449	0.084	0.185	0.346
Reporting Lag	47,172	36.911	16.158	29.000	35.000	40.000

The table above presents the descriptive statistics for the variables used in the study. Column 1 presents the number of valid observations for each variable from 2015 to 2021. Columns 2 and 3 show the mean and standard deviation of each variable. Columns 4, 5 and 6 show the 25th, 50th, and 75th percentile of each variable. All variables are defined in Appendix D in detail.

Table 2: Crypto Events and News Delay on the Same Day

	(1)	(2)
	News Lag	*News Lag*
Crypto Event	0.099***	0.095***
	(3.68)	(3.49)
Abs SUE		0.012
		(1.64)
Busy EA day		-0.115***
		(-5.33)
Size		-0.013
		(-0.27)
BTM		-0.031
		(-0.76)
ROA		0.061
		(1.35)
Leverage		-0.023
		(-0.68)
Institutional Ownership		0.010
		(0.48)
Follow		0.057
		(1.26)
SP500 Ind		-0.077
		(-1.30)
Last 6M Ret		0.015
		(0.38)
Adjusted R^2	0.12	0.12
Observations	5,796	5,796
Firm FE	Yes	Yes
Year FE	Yes	Yes

The table above presents the effect of crypto events on the media coverage of earnings announcements. *News Lag* is the difference in minutes between the time of the earnings announcement by the firm and the time a news article is published. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. All other variables are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 3: Crypto Events and Earnings News Coverage

	(1)	(2)
	EA Media	*EA Media*
Crypto Event	-0.016**	-0.016**
	(-1.99)	(-2.00)
Abs SUE		0.004**
		(2.42)
Busy EA day		-0.044***
		(-9.58)
Size		0.071***
		(5.45)
BTM		0.004
		(0.44)
ROA		-0.004
		(-0.85)
Leverage		-0.007
		(-0.62)
Institutional Ownership		-0.065***
		(-6.18)
Follow		0.027
		(1.03)
SP500 Ind		-0.130***
		(-2.59)
Last 6M Ret		-0.003
		(-0.49)
Adjusted R^2	0.32	0.32
Observations	47,175	47,175
Firm FE	Yes	Yes
Year FE	Yes	Yes

The table above presents the effect of crypto events on the media coverage of earnings announcements. *EA Media* is the number of full articles related to earnings published by Dow Jones on the day of an earnings announcement. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. All other variables are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 4: Crypto Events and Post-event Media Coverage

	(1)	(2)
	Post-Event Media	*Post-Event Media*
Crypto Event	0.016**	0.016**
	(2.06)	(1.96)
Abs SUE		0.005***
		(2.82)
Busy EA day		-0.055***
		(-10.94)
Size		0.018
		(1.00)
BTM		-0.017**
		(-2.08)
ROA		0.006
		(1.17)
Leverage		-0.029
		(-1.63)
Institutional Ownership		0.027**
		(2.26)
Follow		-0.032
		(-1.03)
SP500 Ind		0.061
		(1.49)
Last 6M Ret		0.036***
		(4.08)
Adjusted R^2	0.33	0.33
Observations	47,175	47,175
Firm FE	Yes	Yes
Year FE	Yes	Yes

The table above presents the effect of crypto events on the media coverage after the event. *Post-event Media* is the number of full earnings announcement articles published by Dow Jones about equity market firms during the days [+1,+30]. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of the crypto event and zero otherwise. All other variables are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 5: Crypto Events and the Content of Earnings News Articles

	(1) *Article Length*	(2) *Article Length*	(3) *Hard-Soft Mix*	(4) *Hard-Soft Mix*	(5) *NumQuotes*	(6) *NumQuotes*	(7) *Uncertainty*	(8) *Uncertainty*
Crypto Event	-0.053*	-0.060**	0.069***	0.065***	-0.069**	-0.067**	0.075**	0.091***
	(-1.90)	(-2.22)	(2.85)	(2.70)	(-2.38)	(-2.27)	(2.54)	(3.02)
Abs SUE		-0.001		-0.010		0.011		0.000
		(-0.11)		(-1.42)		(1.10)		(0.03)
Busy EA day		0.003		-0.015		0.009		0.060**
		(0.15)		(-0.76)		(0.38)		(2.17)
Size		-0.281***		-0.089		0.060		-0.174**
		(-2.63)		(-1.38)		(0.92)		(-2.23)
BTM		-0.191		0.032		-0.004		0.150*
		(-1.64)		(0.54)		(-0.05)		(1.77)
ROA		0.027		0.008		0.021		-0.044
		(0.62)		(0.19)		(0.36)		(-0.61)
Leverage		-0.177*		-0.061		0.025		0.108*
		(-1.72)		(-1.34)		(0.48)		(1.73)
Institutional Ownership		-0.004		-0.067**		0.009		-0.012
		(-0.13)		(-2.51)		(0.35)		(-0.43)
Follow		-0.008		-0.023		-0.105*		0.001
		(-0.13)		(-0.49)		(-1.66)		(0.03)
SP500 Ind		-0.139**		-0.106*		-0.008		0.123*
		(-2.11)		(-1.80)		(-0.15)		(1.96)
Last 6M Ret		0.151		-0.103		0.028		-0.109
		(1.30)		(-1.21)		(0.29)		(-1.01)
Adjusted R^2	0.40	0.41	0.45	0.45	0.20	0.20	0.12	0.13
Observations	4,308	4,308	4,308	4,308	4,308	4,308	4,308	4,308
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The table above presents the effect of crypto events on the text of earnings announcement news articles. *Article length* is the number of words in the text of the news articles. *Hard-soft mix* is the ratio of the count of numbers to the number of words in the text of the news article. *NumQuotes* is the number of quotes gathered by journalists in the text of the news article. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. All other variables are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 6: Crypto Events and Flash News Coverage of Earnings

	(1)	(2)	(3)	(4)
	Flash News	*Flash News*	*Post-event Flash News*	*Post-event Flash News*
Crypto Event	-0.004	-0.008	-0.001	-0.001
	(-0.68)	(-1.28)	(-1.38)	(-1.17)
Abs SUE		0.001		-0.000
		(0.39)		(-0.61)
Busy EA day		-0.016***		-0.002***
		(-3.65)		(-3.34)
Size		0.049***		0.003
		(4.01)		(1.53)
BTM		0.012		0.002**
		(1.41)		(2.48)
ROA		-0.017***		0.000
		(-2.91)		(0.55)
Leverage		-0.010		0.004***
		(-0.87)		(3.01)
Institutional Ownership		0.032***		-0.001
		(3.49)		(-1.32)
Follow		0.030		-0.003
		(1.62)		(-0.96)
SP500 Ind		-0.155***		0.015***
		(-4.68)		(3.91)
Last 6M Ret		-0.015*		0.001
		(-1.91)		(0.97)
Adjusted R^2	0.57	0.57	0.10	0.10
Observations	47,175	47,175	47,175	47,175
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

The table above presents the effect of crypto events on the flash articles about earnings announcements. *Flash News* is the number of flash articles related to earnings released by Dow Jones on the day of the earnings announcement. *Post-event Flash News* is the number of flash articles about a firm released by Dow Jones after the crypto event over a period of 30 days. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. All other variables are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 7: Effect of Earnings Surprise on the Delay in the Media Coverage

	(1)	(2)	(3)	(4)	(5)	(6)
	Above median absolute earnings surprise			Below median absolute earnings surprise		
	EA Media	*Post-event Media*	*News Lag*	*EA Media*	*Post-event Media*	*News Lag*
Crypto Event	-0.017	0.007	0.055	-0.019**	0.027***	0.129***
	(-1.22)	(0.52)	(1.18)	(-2.10)	(3.08)	(3.63)
Adjusted R^2	0.29	0.33	0.12	0.37	0.30	0.11
Observations	23,299	23,299	2,771	23,385	23,385	2,740
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes

The table above presents the role of earnings surprise on the relation between crypto events and media coverage of firms. *EA Media* is the number of full articles related to earnings published by Dow Jones on the day of an earnings announcement. *Post-event Media* is the number of full earnings announcement articles published by Dow Jones about equity market firms during the days [+1,+30]. *News lag* is the difference in minutes between the time of the earnings announcement by the firm and the time a news article is published. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. All other variables are defined in Appendix D in detail. Columns 1 to 3 show the effect of crypto events on media coverage of firms for the sub-sample with above median earnings surprise while columns 4 to 6 examine the sub-sample with below median earnings surprise. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 8: Falsification Tests: Altcoins and Pseudo Crypto Events

Panel A: Altcoin

	(1)	(2)	(3)
	EA Media	*Post-event Media*	*News Lag*
Litecoin Event	0.016	-0.005	0.083
	(0.87)	(-0.31)	(1.57)
Adjusted R^2	0.31	0.36	0.13
Observations	22,882	22,882	2,555
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Panel B: Pseudo Crypto Events

	(1)	(2)	(3)
	EA Media	*Post-event Media*	*News Lag*
Pseudo Crypto Event	0.004	-0.003	0.045
	(0.48)	(-0.37)	(1.55)
Adjusted R^2	0.32	0.33	0.12
Observations	47,175	47,175	5,796
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The table above presents the falsification tests. Panel A presents the effect of events related to LTC-USD on the media coverage of earnings announcements. *Litecoin Event* is an indicator variable equal to one if the earnings announcement falls within three days of extreme price movement in LTC-USD and zero otherwise. Panel B presents the effect of pseudo-crypto events on the media coverage of earnings announcements. *Pseudo Crypto Event* is defined as a day which is three days before an actual crypto event, as defined in Table 3. All other variables are defined in Appendix D in detail. Dependent variables in Columns 1, 2, and 3 respectively, are the number of earnings-related full articles (*EA Media*), number of full articles after the crypto event (*Post-event media*), and delay in reporting the earnings announcement (*News lag*). All models include the controls specified in Equation (1), firm fixed effects, and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 9: Effect of Crypto Events on Media Coverage of Cryptocurrencies

	(1)	(2)
	Crypto Media	*Crypto Media*
Crypto Event	0.412***	0.411***
	(4.40)	(4.51)
FOMC Ann		-0.085
		(-0.77)
CMDT Index return		-0.021
		(-1.54)
Busy EA day		-0.029
		(-0.97)
USD-EUR return		-0.016
		(-0.48)
Adjusted R^2	0.25	0.25
Observations	1,512	1,512
Firm FE	Yes	Yes
Year-Qtr FE	Yes	Yes

The table above presents the time-series regression of the effect of crypto events on the number of crypto-related news articles. *Crypto Media* is the number of news articles related to cryptocurrencies published by Dow Jones. *Crypto Event* is an indicator variable equal to one if the day experienced an extreme price movement in BTC-USD. *FOMC Ann* is an indicator variable equal to one if there was an FOMC announcement on the day. *CMDT Index return* represents daily returns in Dow Jones Commodity Index, and *Busy EA day* represents the number of earnings announcements of listed firms on a day. *Forex return* represents foreign exchange returns on a day. All models include year-fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the quarter level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 10: Crypto Event and Information in Earnings Releases

	(1)	(2)
	Earnings Surprise	*Absolute Earnings Surprise*
Crypto Event	0.001	-0.005
	(0.92)	(-0.67)
Adjusted R^2	0.12	0.44
Observations	47,175	47,175
Firm FE	Yes	Yes
Year-Qtr FE	Yes	Yes
Controls	Yes	Yes

The table above presents the association between crypto events and quarterly earnings surprises in the equity market. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of the crypto event and zero otherwise. *Earnings Surprise* is the difference between actual earnings per share and median analyst estimate of earnings per share scaled by price at the end of the previous quarter. *Absolute Earnings Surprise* is the absolute value of the Earnings Surprise. Controls and all other variables are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 11: Investors' Reactions to Earnings News on Crypto Events

Panel A: Pricing of Earnings

	(1) *CAR[0,1]*	(2) *CAR[0,1]*	(3) *CAR[0,1]*	(4) *CAR[0,1]*
SUE x Crypto Event x Crypto Media			-0.001**	-0.001*
			(-2.13)	(-1.95)
SUE x Crypto Event	-0.001***	-0.001*	-0.000	0.000
	(-3.09)	(-1.77)	(-0.28)	(0.30)
SUE	0.011***	0.010***	0.011***	0.009***
	(41.95)	(7.49)	(34.76)	(7.19)
Crypto Event	0.004**	0.003*	-0.001	-0.002
	(2.17)	(1.66)	(-0.23)	(-0.67)
Crypto Media			-0.001	-0.002
			(-0.55)	(-0.97)
SUE x Crypto Media			0.000	0.000
			(0.71)	(1.02)
Crypto Event x Crypto Media			0.007**	0.008**
			(2.03)	(2.34)
Adjusted R^2	0.12	0.16	0.12	0.16
Observations	47,175	47,175	47,175	47,175
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
SUE x Controls	No	Yes	No	Yes

Panel B: Trading Volume

	(1) *Retail TV*	(2) *Retail TV*	(3) *Retail TV*	(4) *Retail TV*	(5) *Institutional TV*	(6) *Institutional TV*	(7) *Institutional TV*	(8) *Institutional TV*
Crypto Event x Crypto Media			-0.063***	-0.036**			-0.046**	-0.022
			(-3.50)	(-2.02)			(-2.50)	(-1.22)
Crypto Event	-0.024**	-0.017*	0.007	-0.002	-0.024**	-0.019**	-0.001	-0.010
	(-2.55)	(-1.88)	(0.51)	(-0.16)	(-2.48)	(-2.04)	(-0.09)	(-0.75)
Abs SUE		0.029***		0.029***		0.026***		0.026***
		(13.78)		(13.78)		(12.12)		(12.13)
Crypto Media			0.031**	0.036***			0.021	0.025*
			(2.27)	(2.65)			(1.54)	(1.80)
Adjusted R^2	0.29	0.31	0.29	0.31	0.26	0.28	0.26	0.28
Observations	47,175	47,175	47,175	47,175	47,175	47,175	47,175	47,175
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes

This table presents the market consequences of delayed media coverage of earnings news. Panel A presents the results for the earnings response coefficient. SUE is the earnings surprise, which is defined as the difference between the actual EPS and median analyst estimate scaled by the market price. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. *Crypto Media* is an indicator variable equal to one if the media published an above-median number of crypto-related news articles on the earnings announcement day. Models in Columns 2 and 4 include the controls specified in Section 1.7 and the interaction of *SUE* with each control variable. All models include firm and year-quarter fixed effects. Panel B presents the results for abnormal trading volume. *Abnormal trading volume* is computed as the trading volume during the earnings announcement window minus the firm's trailing average trading volume over days [-54, -4]. Trading volume is measured as the average daily shares traded, scaled by total shares outstanding. *Retail TV* is retail abnormal trading volume and *Institutional TV* is institutional abnormal trading volume during the earnings announcements window. I classify the trades from the TAQ database as retail or institutional using the methodology specified in Boehmer et. al. (2021). All models include firm fixed effects and year-quarter fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 12: Crypto Events and Price Discovery

	(1) *IPT(0,5)*	(2) *IPT(0,5)*	(3) *IPT(0,5)*	(4) *IPT(0,5)*
Crypto Event x Crypto Media			-0.047**	-0.042**
			(-2.37)	(-2.12)
Crypto Event	0.015	0.016	0.035**	0.034**
	(1.47)	(1.54)	(2.46)	(2.34)
SUE		-0.006***		-0.006***
		(-3.47)		(-3.46)
EA Media		-0.002		-0.002
		(-0.27)		(-0.27)
Crypto Media			0.039***	0.038***
			(2.78)	(2.66)
Adjusted R^2	0.01	0.01	0.01	0.01
Observations	46,279	46,279	46,279	46,279
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes

This table presents the effect of delayed media coverage of earnings news on price discovery. *Crypto Event* is an indicator variable equal to one if the earnings announcement falls within three days of a crypto event and zero otherwise. *Crypto Media* is an indicator variable equal to one if the media published an above-median number of crypto-related news articles on the earnings announcement day. *SUE* is the earnings surprise, which is defined as the difference between the actual EPS and median analyst estimate scaled by the market price. *EA Media* is the number of full articles related to earnings published by Dow Jones on the day of an earnings announcement. Models in Columns 2 and 4 include the controls specified in Section 1.7. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Table 13: Robustness Tests

Panel A: Absolute Bitcoin Return

	(1)	(2)	(3)
	EA Media	*Post-event Media*	*News Lag*
Abs BTC-USD ret	-0.007**	0.010***	0.057***
	(-2.06)	(2.80)	(3.65)
Adjusted R^2	0.32	0.33	0.12
Observations	47,175	47,175	5,796
Firm FE	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Panel B: Including Other Traditional Media Sources

	(1)	(2)	(3)
	EA Media	*Post-event Media*	*News Lag*
Crypto Event	-0.086***	0.064***	0.068***
	(-11.30)	(7.30)	(2.97)
Adjusted R^2	0.34	0.33	0.12
Observations	47,175	47,175	10,190
Firm FE	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

The table above presents the robustness tests to validate the measures used in the study. Panel A estimates the model specified in Equation (1.1) using a continuous independent variable instead of an indicator variable. *Abs BTC-USD ret* is absolute value of overnight Bitcoin return. Panel B estimates the model specified in Equation (1) after including traditional sources of financial media other than Dow Jones. Dependent variables in Columns 1, 2, and 3 respectively, are the number of earnings-related full articles (*EA Media*), number of full articles after the crypto event (*Post-event media*), and delay in reporting the earnings announcement (*News lag*). All models include the controls specified in Section 1.3.2 and firm and year fixed effects. All controls are defined in Appendix D in detail. All models include firm and year fixed effects. Parentheses show the T-statistics, which are estimated using standard errors clustered at the firm level. ***, **, and * denote two-tailed statistical significance at 1%, 5%, and 10%, respectively.

Bibliography

Ahern, K. R. and Peress, J. (2022). The role of media in financial decision-making. *Handbook of Financial Decision Making, Editors Gilles Hilary and David McLean, Forthcoming*.

Ahern, K. R. and Sosyura, D. (2015). Rumor has it: Sensationalism in financial media. *The Review of Financial Studies*, 28(7):2050–2093.

Bushee, B., Cedergren, M., and Michels, J. (2020). Does the media help or hurt retail investors during the ipo quiet period? *Journal of Accounting and Economics*, 69(1):101261.

Bushee, B. J., Core, J. E., Guay, W., and Hamm, S. J. (2010). The role of the business press as an information intermediary. *Journal of Accounting Research*, 48(1):1–19.

Bushman, R. M., Smith, A. J., and Wittenberg-Moerman, R. (2010). Price discovery and dissemination of private information by loan syndicate participants. *Journal of Accounting Research*, 48(5):921–972.

Butler, M., Kraft, A., and Weiss, I. S. (2007). The effect of reporting frequency on the timeliness of earnings: The cases of voluntary and mandatory interim reports. *Journal of Accounting and Economics*, 43(2-3):181–217.

Call, A. C., Emett, S. A., Maksymov, E. M., and Sharp, N. Y. (2018). Meet the press: Survey evidence on financial journalists as information intermediaries. *SSRN Electronic Journal*.

Chan, W. S. (2003). Stock price reaction to news and no-news: drift and reversal after headlines. *Journal of Financial Economics*, 70(2):223–260.

Chang, R. and Cong, L. (2022). Blockchain without crypto? linking on-chain data growth to firm fundamentals and stock returns. *SSRN Electronic Journal*.

Cong, L. W. and He, Z. (2019). Blockchain disruption and smart contracts. *The Review of Financial Studies*, 32(5):1754–1797.

Core, J. E., Guay, W., and Larcker, D. F. (2008). The power of the pen and executive compensation. *Journal of Financial Economics*, 88(1):1–25.

Dougal, C., Engelberg, J., García, D., and Parsons, C. A. (2012). Journalists and the stock market. *Review of Financial Studies*, 25(3):639–679.

Drake, M. S., Guest, N. M., and Twedt, B. J. (2014). The media and mispricing: The role of the business press in the pricing of accounting information. *The Accounting Review*, 89(5):1673–1701.

Drake, M. S., Thornock, J. R., and Twedt, B. J. (2017). The internet as an information intermediary. *Review of Accounting Studies*, 22:543–576.

Dyck, A., Morse, A., and Zingales, L. (2010). Who blows the whistle on corporate fraud? *The Journal of Finance*, 65(6):2213–2253.

Dyhrberg, A. H., Foley, S., and Svec, J. (2018). How investible is bitcoin? analyzing the liquidity and transaction costs of bitcoin markets. *Economics Letters*, 171:140–143.

Easley, D., O'Hara, M., and Basu, S. (2019). From mining to markets: The evolution of bitcoin transaction fees. *Journal of Financial Economics*, 134(1):91–109.

Fang, L. and Peress, J. (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64(5):2023–2052.

Goldman, E., Martel, J., and Schneemeier, J. (2022). A theory of financial media. *Journal of Financial Economics*, 145(1):239–258.

Guest, N. M. (2021). The information role of the media in earnings news. *Journal of Accounting Research*, 59(3):1021–1076.

Guest, N. M. and Kim, J. (2022). The media response to deterioration in a firm's information environment. *Available at SSRN 3337116*.

Guest, N. M., Ochani, A., and Sethuraman, M. (2022). The media goes where they're needed: The relation between firms' investor base and media coverage. *SSRN Electronic Journal*.

Kim, M., Liang, E. H., Ochani, A., and Shao, X. (2022). Cryptocurrency disruption and investor reaction to earnings announcements. *SSRN Electronic Journal*.

Li, C. (2015). The hidden face of the media: How financial journalists produce information.

Loughran, T. and Mcdonald, B. (2011). When is a liability not a liability? textual analysis, dictionaries, and 10-ks. *The Journal of Finance*, 66(1):35–65.

Makarov, I. and Schoar, A. (2020). Trading and arbitrage in cryptocurrency markets. *Journal of Financial Economics*, 135(2):293–319.

Miller, G. S. (2006). The press as a watchdog for accounting fraud. *Journal of Accounting Research*, 44(5):1001–1033.

Mullainathan, S. and Shleifer, A. (2005). The market for news. *American Economic Review*, 95(4):1031–1053.

Niessner, M. and So, E. C. (2018). Bad news bearers: The negative tilt of financial press. *SSRN Electronic Journal*.

Noh, S., So, E. C., and Verdi, R. S. (2021). Calendar rotations: A new approach for studying the impact of timing using earnings announcements. *Journal of Financial Economics*, 140(3):865–893.

Rahman, A. and Debreceny, R. (2010). Frequency of corporate announcements via stock exchange web sites and market efficiency. *Journal of Accounting, Auditing Finance*, 25(3):457–490.

Rees, L. and Twedt, B. J. (2022). Political bias in the media's coverage of firms' earnings announcements. *The Accounting Review*, 97(1):389–411.

Rogers, J. L., Skinner, D. J., and Zechman, S. L. (2016). The role of the media in disseminating insider-trading news. *Review of Accounting Studies*, 21:711–739.

Rubbaniy, G., Tee, K., Iren, P., and Abdennadher, S. (2022). Investors' mood and herd investing: A quantile-on-quantile regression explanation from crypto market. *Finance Research Letters*, 47:102585.

Solomon, D. H. (2012). Selective publicity and stock prices. *The Journal of Finance*, 67(2):599–638.

Soltes, E. (2010). Disseminating firm disclosures. *Unpublished Working Papers. Harvard Business School*.

Tetlock, P. C. (2010). Does public financial news resolve asymmetric information? *Review of Financial Studies*, 23(9):3520–3557.

Twedt, B. (2016). Spreading the word: Price discovery and newswire dissemination of management earnings guidance. *The Accounting Review*, 91(1):317–346.