Does Disagreement Facilitate Informed Trading? Evidence from Activist Investors

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Abstract

We study the effects of investor disagreement on informed trading by activist investors using high-frequency disagreement data derived from the investor social network StockTwits. Greater investor disagreement leads to more trading activity on the subsequent day by privately informed activists. Disagreement leads to higher prices and improvements in measured liquidity, but these observed valuation and market liquidity differences do not explain the increase in activist trading. Instead, investor disagreement affects activist trading primarily by facilitating trading by non-activist investors. These findings suggest that investor disagreement not only affects trading by uninformed investors but also facilitates trading by informed market participants who often take actions aimed at changing corporate policies.

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1 Introduction

Investor disagreement and its financial market consequences have received significant attention in the academic literature (e.g., Karpoff, 1986; Kandel and Pearson, 1995; Hong and Stein, 1999; Scheinkman and Xiong, 2003; Antweiler and Frank, 2004; Carlin et al., 2014). An early result in the literature is that investors cannot agree to disagree without some irrationality being exhibited by investors (Aumann, 1976). On this basis, most analyses of disagreement have focused on less sophisticated traders (e.g., Antweiler and Frank (2004)), or have put forth behavioral explanations for why disagreement leads to trading (e.g., Hong and Stein (1999)). Yet, it is important to understand how sophisticated investors react to disagreement because such investors play an outsized role in determining market outcomes.

In this paper, we provide insights into this question by studying how a particular class of sophisticated investor—activist shareholders on the precipice of an activist campaign—respond to shareholder disagreement. Specifically, we extract from Schedule 13D regulatory filings the precise timing and size of privately informed trades by activists in the run-up period to obtaining beneficial ownership in a firm as part of an activist campaign (e.g., Collin-Dufresne and Fos (2015)).[1] We combine this detailed information on informed trading by activists with novel, high-frequency measures of disagreement that we derive from posts about particular stocks on the investor social network StockTwits (e.g., Cookson and Niessner (2020)).

Investor disagreement can affect activist investors through two opposing channels. On one side, investor disagreement can lead to overvaluation because pessimism is not fully incorporated into prices when short-selling is limited (Miller, 1977). Through this *valuation channel*, disagreement could discourage activist trading because activist investors aim to profit from increasing firm value and therefore are more likely to stay away from overvalued firms. Indeed, Brav et al. (2008) show that activist hedge funds are less likely to target firms with high valuation ratios. On the other side, disagreement can affect liquidity, which is important for the share accumulation process initiated by activist shareholders (Back et al., 2018). Indeed, activist investors trade strategically to reduce the

[1] A series of recent papers studies the relationship between illegal insider trading and financial market outcomes (Kacperczyk and Pagnotta 2019;Ahern, 2020;Akey et al., 2020).

price impact of their purchases (Collin-Dufresne and Fos, 2015). If disagreement improves liquidity (e.g., Cookson and Niessner (2020)), it could encourage shareholder activism through the *liquidity channel*.

Using the novel daily link between activist trading and investor disagreement, our core finding is that disagreement leads to greater activist trading during the 60-day window before an activist campaign is disclosed. Specifically, we find that a one-standard-deviation increase in investor disagreement is associated with a 4% increase in the likelihood that activist trading occurs on a given day (on the extensive margin). On the intensive margin, we find that a one-standard-deviation increase in investor disagreement is associated with about 4.8% more activist trading on days when activists trade.

We address the concern that both activist trading and investor disagreement respond to a common shock within the same day by disaggregating our daily disagreement measure into overnight disagreement and within-day disagreement. *Overnight* shareholder disagreement robustly predicts *next day* activist trading, a finding that is consistent with the idea that disagreement affects activist trading. A one-standard-deviation increase in overnight disagreement is associated with an approximately 0.90 percentage point increase in the likelihood that activist trading occurs whereas an increase in contemporaneous (within-day) disagreement bears a smaller and less significant relationship to the likelihood that activist trading occurs. We reach a similar conclusion when we consider whether disagreement affects the extent to which activists trade. These findings support our interpretation that activist trading reacts to disagreement.[2]

Beyond the empirical timing of disagreement and activist purchases, the incentives that drive activist investors make it less likely that, during the pre-filing period, investor disagreement is a response to activist trading rather than the other way around. As they accumulate their stakes in target firms, activists have strong incentives to keep their purchases private until they are required to disclose their holdings and intentions. We validate this intuition using texts of tweets posted to StockTwits (see Figure 3). We find virtually no mentions of activists or activism in the texts of StockTwits

[2] In a test of external validity beyond activist investors, we also show that our high-frequency measure of disagreement also predicts opportunistic insider trades, which were shown to be informed by Cohen et al. (2012).

tweets during the pre-filing period when an activist accumulates its stake in a company. On the date of a Schedule 13D filing, however, there is a dramatic spike in mentions of activism on StockTwits, and these activism mentions remain abnormally high for at least 20 days after filing. This pattern of activism mentions on StockTwits strengthens our interpretation that activist purchases in the pre-filing period are privately informed.

What drives the positive relationship between overnight disagreement and activist trading? We perform several tests that enable us to compare the importance of the valuation channel with that of the liquidity channel. To shed light on the valuation channel, we examine short-run price reactions to investor disagreement and assess how these reactions relate to the timing and extent of activist trading. Relating to a potential valuation mechanism, we can report two main findings. First, despite there being a strong and positive contemporaneous relationship, we find virtually no relationship between overnight disagreement and next-day returns. Second, accounting for stock returns does not explain the empirical link between overnight disagreement and next-day activist trading. Thus, the relationship between investor disagreement and activist trading is not likely to operate through the valuation channel.

We next consider the stock liquidity channel. We observe that, during the 60-day pre-filing period, there is a weak empirical relationship between disagreement and liquidity measures – Amihud (2002) illiquidity and the bid-ask spread. We find no significant relationship between overnight disagreement and next-day liquidity measures during the pre-filing period. Therefore, changes in stock liquidity measures do not offer a compelling explanation for the link between disagreement and activist trading. This might reflect the fact that, in equilibrium, liquidity measures depend on prices, the extent of informed trading, and the extent of uninformed trading (Kyle, 1985). Therefore, if changes in disagreement lead to changes in prices, uninformed trading, and informed trading, the relationship between endogenously determined liquidity measures and disagreement is *ex ante* unclear. Digging deeper into the liquidity mechanism, we next examine non-activist trading as a proxy for uninformed trading. We argue that, relative to trades executed by activist investors who control the timing and content of activism campaign announcements, non-activist trades are likely to be uninformed about announcements of shareholder activism campaigns and even less likely to be aware

of the exact timing of activist trades. Therefore, if non-activist trading responds to disagreement, it can facilitate activism by easing trading in a firm's shares.

Consistent with the idea that non-activist trading provides liquidity that facilitates activist trades, we find that there is a tight link between disagreement and non-activist stock turnover in the 60-day period prior to a Schedule 13D filing. Moreover, the timing of non-activist trades aligns closely with the timing of activist trading. During the 60-day pre-filing period, the relationship between overnight disagreement and next day non-activist stock turnover is stronger than the within-day relationship between disagreement and non-activist stock turnover. Importantly, we find that the link between overnight disagreement and activist trading is explained by controlling for the amount of non-activist trading, suggesting that the relationship between investor disagreement and activist trading is driven by uninformed trading. We do not find the same effect when we control for contemporaneous returns and illiquidity measures.

Further supporting the liquidity channel, we find that stock turnover is more sensitive to disagreement during the 60-day pre-filing period than it is for the full sample period. Moreover, during the pre-filing period, disagreement is followed by more non-activist trading on days when activists trade than on days when they do not trade. Specifically, a one-standard-deviation-increase in overnight disagreement leads to a 1.02 percentage point increase in non-activist trading on days when activists trade and to a 0.128 percentage point increase in non-activist trading on days when activists do not trade. This finding is consistent with the idea that activists investors choose to trade during periods when disagreement generates more uninformed trading, i.e., during more liquid periods from the activist's point of view. Overall, these findings indicate that the relationship between investor disagreement and activist trading is likely to be driven by uninformed trading, which is encouraged by disagreement.

Our paper contributes to several strands of literature. First, our paper contributes to the literature on the effects of investor disagreement on the trading environment. Trading by informed investors has traditionally been thought of as falling outside of disagreement models (Harris and Raviv, 1993; Kandel and Pearson, 1995; Hong and Stein, 1999; Xiong, 2013). For instance, Harris and Raviv (1993) assume that traders have access to common information but interpret market information

differently. Hong and Stein (1999) assume that the same information diffuses gradually through the marketplace. Neither of these perspectives in the literature considers the actions of purely informed traders separately from the actions of uniformed traders. As we show, however, disagreement has a quantitatively important effect on informed trading because it generates trading opportunities for informed investors through increased trading by uninformed investors. That is, in market equilibrium, uninformed trading induced by investor disagreement is followed by more informed trading and therefore facilitates the flow of information into prices. This result illustrates the importance of equilibrium responses by informed and sophisticated market participants to investor disagreement to fully understanding the effects of disagreement on financial outcomes.[3] For instance, the effects of disagreement on stock prices and various liquidity measures depends on the actions of uninformed traders, whose trades are motivated by disagreement, as well as on the actions of informed traders who respond to uninformed trading (e.g. Collin-Dufresne and Fos, 2016).

Second, we provide a new setting in which disagreement can have not only informational but also real effects. Recent work has shown important effects of disagreement on real estate prices, on the valuation of conglomerate firms, and on security prices when assets are held in portfolios (Bailey et al., 2018; Reed et al., 2020; Huang et al., 2020). Relating to this literature, we find that activist investors that face greater disagreement during the pre-filing period acquire significantly greater eventual stakes in target firms. These greater stakes likely facilitate activism itself (e.g. Maug 1998; Back et al. 2018), which reflects an important real effect of disagreement, as activist investors have been shown to have positive long-term effects on their targets (e.g. Brav et al., 2010). While this paper focuses on activist shareholders given the availability of data on their trading decisions, the broader implications of our findings are likely to be relevant to other corporate governance mechanisms. For instance, the positive effects of investor disagreement on stock liquidity may also facilitate governance through exit (Admati and Pfleiderer, 2009; Edmans, 2009).

Third, our results highlight an important tension between the valuation and liquidity effects of disagreement on informed trading. For example, Sadka and Scherbina (2007) show that analyst dis-

[3] By connecting the actions of sophisticated investors with uninformed trades induced by disagreement, we provide a useful connection between the large disagreement literature and the notion that sophisticated investors play an outsized role in shaping market outcomes (e.g., see Koijen et al. (2020)).

agreement often coincides with high trading costs, which allows for persistent mispricing (Miller, 1977). At the same time, disagreement can promote liquidity via its positive effect on uninformed trading (e.g., Cookson and Niessner, 2020). By studying how informed traders respond to disagreement, we provide useful insights into how sophisticated market participants trade off valuation and liquidity effects. Specifically, in our setting, the tension arises because activism is facilitated by undervaluation (Brav et al., 2008) and greater liquidity (e.g., Collin-Dufresne and Fos (2015), Gantchev and Jotikasthira (2018)). Our findings suggest that the liquidity channel is the primary factor in the relationship between investor disagreement and activist trading.

Fourth, our measurements and findings also contribute to the literature on informed trading. A common strategy in the literature is to measure informed trading using theory-based proxies of informed trading and/or adverse selection. By contrast to traditional measurements of informed buying, we take an "ex ante" approach, following Collin-Dufresne and Fos (2015), that focuses on the trades of identifiably informed investors. In this respect, our measurement of informed trading is similar to that of Cohen et al. (2012), who study opportunistic insider trading and show that this trading is informed, as well as that of Kacperczyk and Pagnotta (2019) and Ahern (2020), who use illegal insider trading as a laboratory in which to study informed trading. Notably, this strategy is similar to strategies deployed in recent work that identifies uninformed trades by retail investors from Robinhood (e.g., Barber et al. (2020), Ozik et al. (2020), Welch (2020), Glossner et al. (2021), and Eaton et al. (2021a)). Across all of these related papers, a unique feature of our setting is that both the measure of informed trades and the disagreement measure can be observed explicitly. As a result, our empirical specifications that relate high-frequency measures of disagreement (daily and subdaily) to informed trades provide sharp and novel insights into the connection between uninformed and informed trading.

Finally, our work relates to an emerging strand of research that uses unique features of StockTwits data. The bulk of existing work on StockTwits focuses on investor beliefs and the market behavior of those on StockTwits, potentially as a proxy for a broader set of market participants (Cookson and Niessner, 2020). For example, existing work has used the fact that geography and social connections are observed on StockTwits to identify distinct sources of information (Giannini et al.,

2017; Cookson et al., 2021). Alternatively, other work that uses StockTwits data identifies differences in investment philosophies or other ideology.[4] We depart from this literature by studying the behavior of identifiably privately informed investors who are unlikely to express these informed opinions on StockTwits.[5] By economically linking the trading behavior of an important subset of investors to StockTwits disagreement, our findings provide evidence of an important equilibrium mechanism through which investor disagreement can spill over into decisions made by other market participants.

2 Data

2.1 StockTwits Data

The dataset we use to measure investor disagreement comes from the investor social network StockTwits. StockTwits was founded in 2008 as a social networking platform that enables investors to share their opinions about stocks. The website has a Twitter-like format, where participants post short messages and use "cashtags" with the stock ticker symbol (e.g., *"$AAPL"*) to link a user's message to a particular company. According to a website analytics tool, Alexa, StockTwits was ranked as the 505th most popular website in the US as of June 2021. Its users are predominantly male, and the number of users on StockTwits with a graduate school degree is over-represented relative to the educational attainment of users of other websites.

StockTwits provided us with the universe of messages posted between January 1, 2010 and December 31, 2018. In total, there are 144,641,361 messages posted by 487,265 unique users who mention 13,248 unique assets. For each message, we observe a user identifier and the message content. We also observe indicators for sentiment (bullish, bearish, or unclassified), and "cashtags"

[4] Cookson and Niessner (2020) extract individual investors' broad investment philosophies from StockTwits user profiles and use it to decompose overall disagreement into model-based disagreement and information-based disagreement. In a complementary vein, Cookson et al. (2020) identify partisan affiliation in the content of a user's tweets and show that a significant partisan gap in investor beliefs emerges during the COVID-19 pandemic – namely, partisan Republicans remain substantially more optimistic.

[5] In a vein that complements our empirical analysis, Dessaint et al. (2021) show that analysts that aresubject to greater exposure to short-term messages posted on StockTwits produce forecasts with smaller short-term forecast errors while exhibiting no improvement over their long-term forecasts.

that link the message to particular assets. For more information about the data, please refer to Cookson and Niessner (2020), who perform a series of validation exercises for using StockTwits sentiment-stamped messages to measure disagreement.

Following prior work on StockTwits sentiment and disagreement, we restrict attention to messages that mention only one ticker to focus on sentiment that can be directly linked to a particular stock. Because it will be useful for our decomposition of disagreement into distinct types, we retain StockTwits messages posted by users who select an investment approach, a holding period, and experience in their profile information. Further, to facilitate the link to Schedule 13D filing data, we focus on firms that are headquartered in the United States and thus make regular filings with the SEC. After these sampling restrictions, our final sample contains 22,475,108 messages posted by 68,284 unique users on 9,306 unique tickers.

We construct our disagreement measure by computing the standard deviation of expressed sentiment across messages for a given $firm \times day$. Because the underlying sentiment variable is binary (-1 for a bearish sentiment and 1 for a bullish sentiment), the variance in the sentiment measure for a firm $i$during a time period t equals $1 - AvgSentiment_{it}^2$, where $AvgSentiment_{it}$ is the average sentiment of messages posted about firm i during time period t. Thus our disagreement measure is

$$Disagreement_{it} = \sqrt{1 - AvgSentiment_{it}^2} \tag{1}$$

The $AvgSentiment_{it}$ measure ranges from -1 (all bearish) to $+1$ (all bullish). This disagreement measure ranges from 0 to 1, with 1 signifying maximal disagreement. We apply the formula to firm-day observations that have non-zero messages. When there are no messages for a particular firm-day-group, it is no longer possible to compute the standard deviation of sentiment across messages. For this corner case, we maintain the assumption that non-posting means that traders do not wish to buy or sell in the near term. Accordingly, we normalize disagreement in the no-message case to 0, consistent with latent agreement, following the empirical definition in Cookson and Niessner (2020). This choice regarding how to normalize the no-message case is consistent with the idea

that minimal disagreement should correspond to minimal trading. Our empirical tests consider robustness to this definition by excluding zero message days from the analysis.

2.2 Schedule 13D Trading Data

We extract information on the timing and size of privately informed trades by activists by extracting this information from the mandated disclosure of beneficial ownership to the SEC. Specifically, Rule 13d-1(a) of the 1934 Securities Exchange Act requires investors to file their status with the SEC within 10 days of acquiring beneficial ownership of more than 5% of a voting class of a company's equity securities registered under Section 12 of the Securities Exchange Act of 1934. We refer to the date when the beneficial ownership crosses the 5% threshold as the "event date" and the date when the filing is sent to the SEC as the "filing date."

Information on trades executed by Schedule 13D filers is reported in Item 5(c). Item 5(c) of Schedule 13D requires a filer to report the date, price, and quantity of all trades in the underlying security (common stock) executed during the 60 days that precede the filing date.[6]

The sample of Schedule 13D filings with information on trades is constructed as follows.[7] First, we identify all Schedule 13D filings from 2010 through 2018. Next, we check the sample manually and identify events accompanied by information on trades. Because the trading characteristics of ordinary equities might differ from those of other assets, we retain only assets whose CRSP share codes are 10 or 11. We discard certificates, ADRs, shares of beneficial interest, units, companies incorporated outside the U.S., Americus Trust components, closed-end funds, preferred stocks, and REITs. We further exclude stocks whose prices are below $1 or above $1,000. Finally, we exclude Schedule 13D/A filings (i.e., amendments to previously submitted filings) that are mistakenly classified as original Schedule 13D filings. The final sample comprises the universe of all Schedule 13D filings that satisfy the above criteria from 2010 through 2018, which totals 1,409 events. During the sample period, 157 events take place on average each year.

[6] To quote from Item 5(c), filers have to "...describe any transactions in the class of securities reported on that were effected during the past sixty days or since the most recent filing of Schedule 13D, whichever is less,..."

[7] See Collin-Dufresne and Fos (2015) for a detailed description of the procedure. Ye and Zhu (2020) use Schedule 13D data to study trading avenue choices made by informed traders.

For each event, we extract the following information from the Schedule 13D filings in our sample: the CUSIP of the underlying security, the transaction date, the transaction type (purchase or sell), the transaction size, and the transaction price. In the vast majority of cases, transaction data are reported at daily frequency. If the transaction data are reported more frequently than daily, we aggregate them to the daily level. Specifically, for each day we calculate the total change in stock ownership and the average purchase price. The average price is the quantity-weighted average of transaction prices.

2.3 Summary Statistics

Table 1 reports summary statistics for all our variables. In Panel A, we report summary statistics for the entire sample and in panel B we report summary statistics for the same variables during the $[t-60, t-1]$ period before Schedule 13D filings. We find that stock turnover during the $[t-60, t-1]$ period before Schedule 13D filings (at a 1.25% turnover rate) is similar to stock turnover in the full sample period (at a 1.32% turnover rate). Similarly, disagreement among investors is similar during the $[t-60, t-1]$ period and during the overall sample period. However, the number of messages posted on StockTwits is lower during the $[t-60, t-1]$ period than during the overall sample period. During the $[t-60, t-1]$ period before Schedule 13D filings, activist investors trade on 37% of trading days. Finally, we find that the liquidity measures and stock returns are similar during the two time periods.

[Insert Table 1 here]

Figure 1 presents the average extent of activist investor trading (Panel A) and investor disagreement (Panel B) during the $[t-60, t-1]$ period before Schedule 13D filings. The figure indicates that both measures gradually increase as the filing date approaches.

[Insert Figure 1 here]

Before presenting our main evidence regarding disagreement and trading at the daily level, we find it instructive to consider whether activists who target firms that face greater disagreement in their pre-filing periods also acquire greater stakes in their target firms. Using raw data at the event level, we illustrate this relationship by focusing on the mean acquisition stake of activists by comparing whether a targeted firm exhibited above- or below median-disagreement in the pre-filing period. Consistent with the facilitation of activism by disagreement, Panel (a) of Figure 2 shows that activists acquire significantly higher numbers of shares when shareholder disagreement about a target firm is high. Specifically, when shareholders of target firms exhibit below-median disagreement, activist investors accumulate about 3.5% of shares outstanding. In contrast, during events with above-median levels of messages, Schedule 13D filers accumulate about 5.5% of shares outstanding. This finding indicates that, when investor disagreement increases, activist investors purchase lager fractions of shares outstanding and therefore are likely to devote more time and energy to activism (Back et al., 2018).

[Insert Figure 2 here]

In Panels (b) and (c) of Figure 2 we preview the main mechanism behind the positive relationship between investor disagreement and activist trading. We see that higher investor disagreement is positively associated with average stock turnover during the 60-day period prior to Schedule 13D filing (panel (b)) as well as ex-activist turnover (panel (c)). Next, we zoom into the daily data on investor disagreement and informed trading to provide a more compelling empirical link than this event-level comparison makes possible.

3 Preliminary Evidence on Disagreement, Liquidity, and Valuation

In this section we present empirical results that show how disagreement can give rise to both a liquidity channel and a valuation channel. This evidence takes the form of panel regressions that relate disagreement at the stock-day level to stock-day liquidity and returns outcomes. Specifically, we estimate the following panel regression:

$$Y_{it} = \alpha_i + \alpha_t + \beta Diasgreement_{it} + X'_{it}\gamma + \varepsilon_{it}, \tag{2}$$

where Y_{it} is an outcome variable for firm i on day t (either daily turnover or returns),[8] $Diasgreement_{it}$ is measured from 4 p.m. on day $t-1$ to 4 p.m. on day t, α_i are firm fixed effects, α_t are date fixed effects, and X is a vector of control variables (contemporaneous and lagged number of messages, lagged disagreement, lagged turnover, and lagged activist turnover).

[Insert Table 2 here]

The resultsobtained by estimating this specification in the case of daily turnover are reported in Table 2. The results reported in columns 1 through 4 reveal that there is a strong positive relationship between *Disagreement* and *Turnover*. The estimated coefficient is robust to including firm and date fixed effects as well as time-varying controls. We estimate that a one-standard-deviation increase in *Disagreement* for a given observation ($sd = 0.055$) is associated with between 0.19 and 0.22 percentage points greater *Turnover* across specifications (columns 1 through 4).[9] An increase of such magnitude represents approximately one sixth of the average daily turnover, which equals 1.32 percent.

Because *Disagreement* and *Turnover* are measured contemporaneously, it is difficult to conclude from columns 1 through 4 whether disagreement drives turnover or it is the other way around. To refine our interpretation, we also consider specifications that replace the *Disagreement* measure with two sub-daily measures: $Disagreement\ Night_{it}$ (the standard deviation of StockTwits message sentiment from the overnight period about firm i, i.e., from 4 p.m. on day $t-1$ to 9 a.m. of day t) and $Disagreement\ Day_{it}$ (the standard deviation of StockTwits message sentiment during trading

[8] For this preliminary analysis, we consider liquidity measures – Amihud (2002) illiquidity measure, and the bid-ask spread – in addition to daily turnover and returns.

[9] Further, we show in column 4 that disagreement at a one-day lag is no longer associated with stock turnover. Thus, we are confident that the estimates do not reflect persistent effects of disagreement and trading from previous days.

hours on day t about firm i, i.e., from 9 a.m. to 4 p.m. on day t).[10] The estimates of this specification reported in columns 5 through 7 of Table 2 indicate that *Disagreement Night*$_{it}$ exhibits a positive and statistically significant predictive relationship to turnover that is stable upon the inclusion of controls and fixed effects, with estimated magnitudes ranging from 0.066 to 0.121. This specification provides useful evidence that disagreement is followed by more active trading because disagreement from the overnight period is unlikely to be driven by future trading. Consistent with idea that the increased turnover reflects greater liquidity, similar specifications in appendix table A.1 reveal that the Amihud (2002) illiquidity measure and the bid-ask spread are both significantly and negatively related to disagreement. Overall, these results suggest that greater disagreement signals a better trading environment for informed traders.

Next, to establish the relevance of the valuation channel, we consider the relationship between disagreement and daily stock returns in an analogous specification. The results are reported in Table 3. The results reported in columns 1 through 4 indicate the presence of a positive relationship between disagreement and stock returns. Based on the results in column 1, we observe that a one-standard-deviation increase in disagreement is associated with higher returns of approximately 9 basis points. This finding is consistent with Hong and Stein (1999), who posit that disagreement should lead to positive price pressure in the short term. The results reported in columns 5 through 7 indicate that this positive relationship is driven by the contemporaneous relationship between disagreement and returns rather than by the predictive relationship. Specifically, the results indicate that the relationship between day disagreement and stock returns is positive and significant, but the relationship between night disagreement and stock returns is indistinguishable from zero when we include firm fixed effects. This finding suggests that, either the positive relationship is driven by the reaction of disagreement to changes in prices or the relationship between disagreement and stock returns is very short-lived.

[Insert Table 3 here]

[10] Similarly to the *Disagreement* measure, we replace one of control variables, the number of messages, with the number of messages during the night and the number of messages during the day. We do this to ensure that the variation in the *Disagreement* measure is not purely reflecting differences in attention.

4 Disagreement and Informed Trading

For the overall sample, the results indicate that disagreement is positively and significantly associated with stock turnover and liquidity, suggesting that disagreement is likely to facilitate informed trading through the liquidity channel. On the other hand, we also find that disagreement leads to higher stock prices at daily frequency. This higher stock price can discourage trading by activist shareholders whose trades during the pre-filing period are almost exclusively purchases. In this section, we focus on the pre-filing period and use data on the timing of privately informed activist trades to understand how disagreement affects informed trading by activist investors.

4.1 Empirical Strategy

In this section, we develop an empirical strategy to measure how sophisticated investors respond to *Disagreement*. We consider a particular class of sophisticated investors – activist shareholders on the precipice of an activist campaign. We extract from Schedule 13D regulatory filings the precise timing and sizes of privately informed trades executed by activists in the run-up period to obtaining beneficial ownership in a firm as part of an activist campaign.

Using Schedule 13D trading data combined with sub-daily measures of disagreement, we can measure how activist trades respond to investor disagreement. Specifically, we estimate the following regression:

$$Activist\ Trade_{it} = \alpha_i + \alpha_t + \beta_1 Disagreement\ Night_{it} + \beta_2 Disagreement\ Day_{it} + X'_{it}\gamma + \varepsilon_{id}, \quad (3)$$

where *Activist Trade* is an indicator variable equal to 1 if an activist trades on day t during the $[t-60, t-1]$ period prior to Schedule 13D filing i, and 0 otherwise. All other variables are as described in section 3. We estimate this regression during the $[t-60, t-1]$ period prior to Schedule 13D filing. By restricting attention to this pre-filing period, the estimates do not reflect factors

that drive the selection of these periods of activism. The estimates obtained from the regression (3) identify the relationship between disagreement and trading at the extensive margin (whether an activist trades on a given day). To shed light separately on the intensive margin (the extent to which an activist trades), we estimate regression (3) while restricting the sample only to days when Schedule 13D filers trade (*Activist Trade* equals one) and replacing the outcome variable with $Activist\ Turnover_{it}$, which is the fraction of shares outstanding accumulated by a focal activist on day t.

Activist trades are typically unknown to market participants during the pre-filing window ($[t-60, t-1]$). The fact that these trades are not public knowledge until the Schedule 13D filing (e.g., Collin-Dufresne and Fos (2015)) mitigates the reverse causality concern that the knowledge that activists are trading leads to disagreement. It remains possible, however, that changes in volume and prices, caused by activist trading, generate more disagreement. To address the potential that simultaneity might confound the results, we measure investor disagreement separately for messages posted prior to market opening (*Disagreement Night*) and for messages posted during trading hours (*Disagreement Day*). Using this measure, we can test whether investor disagreement prior to the market open subsequently generates activist trading ($\beta_1 > 0$). In so doing, we not only establish that investor disagreement is a strong correlate of shareholder activism but also provide support for a causal relationship between investor disagreement and activists' trading strategies.

4.2 Main Findings

In table 4, we report results obtained by estimating our main specification in equation (3) on the pre-filing period sample. In Panel A, the outcome variable is *Activist Trade*, an indicator of days with activist trading.

[Insert Table 4 here]

The results reported in column 1 show that when investor disagreement increases, activist share-

holders are more likely to purchase shares.[11] A one-standard-deviation increase in disagreement is associated with approximately a 0.9027 percentage point increase in the likelihood that an activist accumulates shares in the target firm on that day. Relative to the average frequency of trading in the pre-filing period of 37.28%, this estimate implies an increase of 2.42% in the likelihood that an activist trades at all on a given day. This is an economically meaningful difference in trading activity, and our estimate is statistically significant at the 1% level, clustering the standard errors by firm and date.

Further, the estimates reported in column 1 control for lagged turnover rate and lagged indicator of activist trading. The estimated coefficients on these control variables show that activists are more likely to trade following days with high turnover. Moreover, the likelihood that activists tradeincreases by more than 0.46 percentage points following a day with activist trading, suggesting that activists are likely to trade on several consecutive days. These estimates provide another useful quantitative benchmark for the estimated coefficient on disagreement, which is roughly twice as large as the estimated coefficient on these other determinants of trading during the pre-filing period.

Next, we consider column 2, which distinguishes the role of night disagreement from day disagreement. The coefficients of *Disagreement Day* and *Disagreement Night* indicate that both the night and day disagreement measures are significantly and positively related to activist trading decisions. Overall, the evidence is consistent with the idea that investor disagreement predicts activist trading, and the fact that night disagreement leads activist trading in time addresses the concern that disagreement emerges because of activist trading. As in column 1, here the coefficient estimate for night disagreement is roughly twice as large as estimated coefficients on lagged turnover and lagged activist trading.

To obtain the results we report in Panel B of Table 4, we investigate the intensive margin of the relationship between disagreement and activist trading. To do this, we restrict attention to days on which a focal activist makes at least some purchases of a target firm's shares to focus on variation in *how many* shares the activist purchases. The outcome variable for Panel B is *Activist Turnover*, which

[11] Activists purchase shares on the vast majority of days when they trade during the pre-filing period because this is a period in which they are accumulating a block holding position. Thus, we focus exclusively on purchases during this period, and refer to activist purchases rather than activist trading.

is the fraction of shares outstanding purchased by the activist multiplied by 100 for a percentage-change interpretation. Based on the results reported in column 1, a standard deviation increase in *Disagreement* is associated with an intensive margin increase of activist turnover of 0.0451 percentage points, which is nearly a 19% increase in the number of shares purchased by the activist (and is statistically significant at the 1% level). Further, as can be seen in column 2, there is a similarly significant intensive margin increase in activist turnover in response to overnight disagreement (coefficient magnitude of 0.0407 percentage points).

The textual content of tweets on StockTwits further enhances our interpretation that disagreement affects privately informed trades by activists, rather than being driven by some confounding factor that drives both. Figure 3 presents an event window plot of the number of mentions of activism or prominent activist investors from 80 days before to 20 days after required 13-D filings. In this figure, we see very few mentions of activism on StockTwits in the pre-filing period $[t-60, t-1]$, consistent with activists' incentives to keep their trading activities private until they are required to disclose their stakes in target firms. On the filing day, there is a dramatic spike in activism mentions, and abnormally high discussion of activism continues for at least 20 days after filing. This pattern shows that StockTwits users are unaware of the campaign until it is disclosed in the Schedule 13D filing.

[Insert Figure 3 here]

Looking into other terms that StockTwits users mention, we see a modest increase in discussions of price movements (Panel (a) of Figure 4) and abnormal volume/volatility (Panel (b) of Figure 4) in the days leading up to the filing date. This pattern suggests that valuation effects or volume/liquidity effects could be important mechanisms for the main finding. In the section in which we discuss mechanisms, we evaluate these channels explicitly, but our core finding that disagreement facilitates (rather than discourages) activism already suggests that the liquidity mechanism is more important for privately informed activist trading.

[Insert Figure 4 here]

We perform a battery of tests to confirm the robustness of this main result. We evaluate the robustness of the result to the exclusion of zero-message days from our analyses, the inclusion of several alternative sets of control variables (overnight returns, news coverage, sentiment, retail order imbalance, and event fixed effects), and the exclusion of the previous ten days ahead of the pre-filing window (when activists trade very aggressively). The results are reported in Internet Appendix A (Tables A.2 through A.8). Our main results remain similar in magnitude and statistically significant across all of these specifications.

4.3 External Validity: Opportunistic Insider Trading

In this section, we evaluate the external validity of our finding that disagreement facilitates informed trading by evaluating whether informed trades executed by insiders – i.e., opportunistic insider trades as in Cohen et al. (2012) – respond in a similar fashion to our daily and overnight disagreement measures. This is an important robustness test as it shows that the relationship between disagreement and informed trading holds not only for informed trading by activist shareholders (who strategically select targeted firms and accumulate shares during a prolonged period of time), but also for other informed investors. To do this, we follow Cohen et al. (2012)'s classification of opportunistic insider trades, and estimate whether the timing of opportunistic insider trading responds to disagreement in a similar specification to what we employ using activist trades.

We present these results in table 5, showing that informed insider trades respond to investor disagreement in a manner that resembles informed trading by activists. We find that investor disagreement is positively and significantly related to opportunistic insider purchases as well as opportunistic insider sales. The effect of investor disagreement on insider sales is particularly useful because activist trading consists primarily of purchases of shares in a target firm. Overall, the evidence shows that opportunistic insider trading responds to disagreement in a fashion that resembles activist trading, suggesting that investor disagreement affects the trading of a broader class of informed investors via improvements to market liquidity.

[Insert Table 5 here]

4.4 Mechanism

Investor disagreement can affect activist trading through two opposing channels. On the one hand, disagreement can lead to overvaluation because pessimism is not fully incorporated into prices when short-selling is limited (Miller (1977)). According to this *valuation channel*, disagreement discourages activist trading because activist investors aim to profit from increasing firm value, and thus, tend to stay away from overvalued firms. The evidence reported in Table 3 on disagreement and returns suggests that the valuation channel can affect informed trading. On the other hand, disagreement can affect activist trading through a *liquidity channel* because liquidity is important in the share-accumulation process undertaken by activist shareholders (Back et al. (2018)). If disagreement improves liquidity (Cookson and Niessner (2020)) and activist investors trade strategically to reduce the price impact of their purchases (Collin-Dufresne and Fos (2015)), disagreement could facilitate shareholder activism. Supporting this channel, the evidence reported in Table 2 shows that disagreement corresponds to greater stock liquidity. In this section, we perform several tests to evaluate the relative importance of the valuation channel and the liquidity channel.

4.4.1 Liquidity Channel: Ex-Activist Trading

We begin by studying the relationship between disagreement and *Ex-activist trading* (trading by non-activist investors), which provides evidence pertaining to the liquidity channel. We calculate *Ex-activist trading* by regressing turnover on activist turnover and taking the residual. The results are reported in Table 6, which reports ex-activist turnover as a percentage by multiplying it by 100. For columns 1 and 2, we focus on the $[t-60, t-1]$ period prior to Schedule 13D filings. The results reported in column 1 show that more extensive investor disagreement leads to higher ex-activist trading. The estimates reported in column 2, which distinguish the role of night disagreement from that of day disagreement, reveal that both the night and day disagreement measures are significantly and positively related to ex-activist trading activity.[12]

[12] Table A.9 in the Internet Appendix shows that these results are robust to using an alternative measure of ex-activist turnover: total turnover minus activist turnover.

[Insert Table 6 here]

The results reported in columns 3 through 6 show that the relationship between investor disagreement and ex-activist trading differs between days when activist investors trade and the days on which they do not trade. For columns 3 and 4, we consider days when activist investors trade and find that the predictive relationship between investor disagreement and ex-activist trading is more than twice as strong as during the entire $[t-60, t-1]$ period. Specifically, columns 3 and 5 show that, during activist trading days, the predictive relationship between disagreement and ex-activist trading on days when activists trade is *stronger* than the relationship between disagreement and ex-activist trading on days when activists do not trade (0.9038 versus 0.1276). Overall, the results are consistent with the idea that activist investors trade on days when uninformed investors react especially strongly to investor disagreement. In particular, activist investors are more likely to trade in response to night disagreement when night disagreement leads to higher ex-activist trading activity. Because ex-activist trading activity is, by construction, the fraction of daily turnover that is uncorrelated with activist trading activity, our findings are consistent with the liquidity channel.

4.4.2 Valuation Channel: Stock Returns

We next consider the relationship between disagreement and stock returns. The results are reported in Table 7. In columns 1 and 2, we report the results using the pre-filing period sample and they indicate a positive relationship between disagreement and stock returns. In column 1, for example, we see that a one-standard-deviation increase in disagreement is associated with an approximately 20 basis point higher return. This finding is consistent with Hong and Stein (1999). Interestingly, the results reported in column 2 indicate that this relationship is driven by the contemporaneous relationship between disagreement and returns rather than by the predictive relationship, much like what we find with the overall sample and report in Table 3 . Specifically, the results indicate that the relationship between day disagreement and stock returns is positive and significant, but the relationship between night disagreement and stock returns is indistinguishable from zero. The statistical difference between the two is significant at the 1% level.

[Insert Table 7 here]

When we consider days on which activist investors trade, we find a similar pattern: the relationship between day disagreement and stock returns is stronger than the relationship between night disagreement and stock returns. The results reported in column 4 show that a one-standard-deviation increase in night (day) disagreement is associated with higher returns of approximately 31 (12) basis points. For columns 5 and 6, we consider the relationship between disagreement and stock returns on days when activist investors do not trade. In contrast to the positive relationship we find between day disagreement and stock returns on days on which activists trade, we find that a weaker contemporaneous relationship on days when activist investors do not trade. For instance, the coefficient estimate on day disagreement is 31 basis points as reported in column 4 and 12 basis points as reported in column 6 (a difference in estimates that is highly statistically significant).

Overall, because the link between stock returns and disagreement is driven by day disagreement while trading is more tightly linked to overnight disagreement, these findings imply that the relationship between disagreement and stock returns is not likely to explain the predictive relationship between disagreement and activist trading. Instead, the evidence indicates that ex-activist trading, via the liquidity channel, is the most plausible mechanism through which disagreement affects activist trading.

4.4.3 Illiquidity Measures

We next turn our attention to the relationship between disagreement and two illiquidity measures —the Amihud (2002) illiquidity measure and the bid-ask spread.[13] The results are reported in Table 8, where we report the results for Amihud illiquidity in Panel A and we report the results for the bid-ask spread in Panel B. Overall, the results indicate a weak negative relationship between disagreement and illiquidity measures during the $[t-60, t-1]$ period. When we consider days

[13] In addition, in Table A.10 in the appendix, we report the results using alternative liquidity measures identified in the literature (i.e., Quoted Spread, Effective Spread, Realized Spread, and Price Impact). These results are consistent with the two measures we present in the main text, so we report them in the appendix to keep the main text presentation of results concise.

on which activist investors trade, the relationship between disagreement and the Amihud illiquidity measure becomes insignificant, whereas the relationship between disagreement and the bid-ask spread becomes significant at 1%. For both day and night measures, we observe no significant relationship with disagreement on days on which activist investors do not trade. When we consider day and night disagreement separately, we find that the relationship is insignificant for measures of illiquidity.[14]

[Insert Table 8 here]

Overall, changes in stock illiquidity measures do not offer a compelling explanation for the link between disagreement and activist trading during the pre-filing period. This might reflect the fact that, in equilibrium, liquidity measures depend on prices, the extent of informed trading, and the extent of uninformed trading. Therefore, if changes in disagreement lead to changes in prices as well as uninformed and informed trading, the relationship between endogenously determined liquidity measures and disagreement is *ex ante* unclear (Collin-Dufresne and Fos, 2016).

4.4.4 Disentangling Economic Mechanisms

We conclude the analysis of economic mechanisms by investigating the impact on the estimated relationship between disagreement and activist trading of controlling for stock returns, illiquidity measures, and ex-activist turnover. Specifically, we augment equation (3) by including controls for these potential mechanisms. The results of this analysis are reported in Table 9.

[Insert Table 9 here]

In Panel A of Table 9, we present results pertaining to the extensive margin, i.e., the relationship between disagreement and the likelihood that activist trading occurs. We perform the analysis by

[14] It is important to note, however, that regressions include event fixed effects, therefore relying on within-event variations in disagreement and liquidity measures. The results reported in table A.11 show that, when we drop event fixed effects, the relationship between disagreement and liquidity measures becomes significant. This result implies that events associated with high investor disagreement also exhibit high stock liquidity.

individually controlling for those measures, reported in columns 1 through 4, and then controlling for them together, reported in columns 5 and 6. The results indicate that ex-activist trading is the most powerful explanation for the predictive relationship between night disagreement and the extensive margin decision by an activist to trade. Indeed, as we show in columns 1 through 4, the only control that meaningfully affects the estimated coefficients on the disagreement variables is ex-activist turnover (column 4).[15] When we control for other liquidity measures and stock returns (results reported in columns 1 through 3), the estimated coefficients of night disagreement and day disagreement are similar in magnitude to the main test results reported in Table 4. As the results reported in columns 5 and 6 illustrate, this feature of our results remains when we include all of the other controls in the same specification.

In Panel B in Table 9, we focus on the relationship between disagreement and the intensive margin of activist trading. The results, based on the sample of days on which activists trade, provide corroborative evidence that ex-activist trading is the main factor that drives the predictive relationship between disagreement and activist trading. Specifically, the results reported in columns 1, 2, 3, and 5 indicate that, when we control for stock returns as well as measures of illiquidity, the relationship between disagreement and activist trading remains strong. In contrast, the results reported in columns 4 and 6 show that the relationship between disagreement and activist trading becomes weak only when we include ex-activist trading in the regression. For instance, the coefficient on night disagreement changes from 0.0410 as reported in column (3) to 0.0154 as reported in column (4). Overall, our findings are consistent with the idea that the liquidity channel contributes to the relationship between disagreement and activist trading.

5 Conclusion

For this paper we study how a particular class of sophisticated investors – activist shareholders on the precipice of an activist campaign – respond to shareholder disagreement. We find that investor disagreement makes activist trading more likely on any given day and generates more activist

[15] Table A.12 in the Internet Appendix shows that these results are robust to controlling for an alternative measure of ex-activist turnover.

trading on days on which activists trade. We strengthen the causal interpretation of this finding by disaggregating our daily disagreement measure into overnight disagreement and within-day disagreement. We find a robust link between overnight shareholder disagreement and next-day activist trading, consistent with the idea that disagreement affects activist trading. Additional analyses indicate that this relationship is driven by the liquidity mechanism: disagreement leads to more trading by ex-activist investors, which improves liquidity and thereby facilitates activism.

Our findings show that disagreement has a quantitatively important effect on both the timing and intensity of informed trading, because such disagreement generates trading by uninformed investors, thus opening up trading opportunities for informed investors. This mechanism suggests that uninformed trading induced by disagreement may be an important force that facilitates the flow of information into prices. Moreover, our results indicate that investor disagreement affects trading by an important class of informed investors – activist shareholders. Given that the existing literature indicates that there are positive long-term effects of activism on their targets, our finding that investor disagreement facilitates shareholder activism reveals a novel real effect of disagreement.

Overall, our results highlight the importance of informed and sophisticated market participants to a full understanding of the effects of disagreement in financial markets. Based on our findings, more research is needed to incorporate sophisticated investors' actions into market equilibrium in settings dominated by the actions of behavioral agents.

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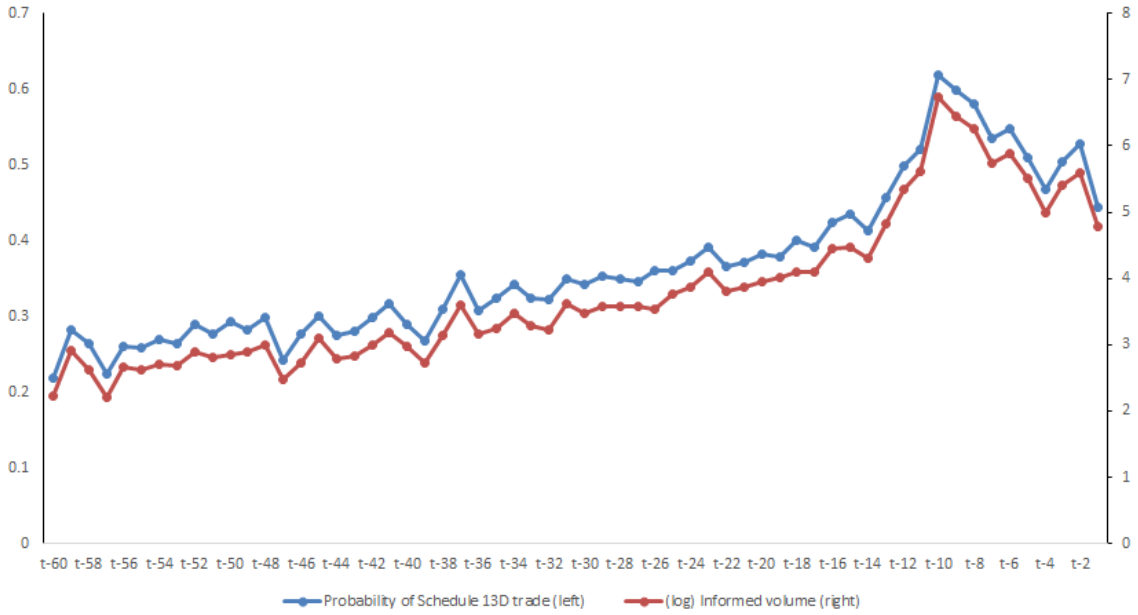
Figures

Figure 1: Schedule 13D trading and investor disagreement.

Note: Panel (a) plots the probability of Schedule 13D trading and the (log) Schedule 13D trading volume. Panel (b) plots investor disagreement from Stock tweet data. The sample covers Schedule 13D target firms from 60 days prior to Schedule 13D filing date to the filing date.

(a) Schedule 13D Trading



(b) Investor Disagreement

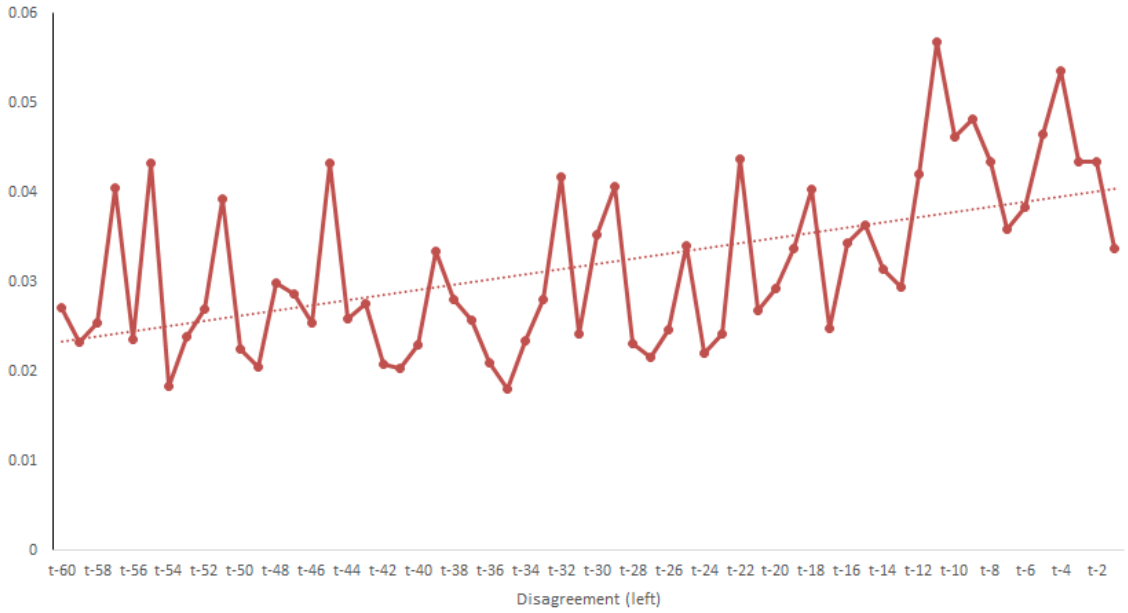
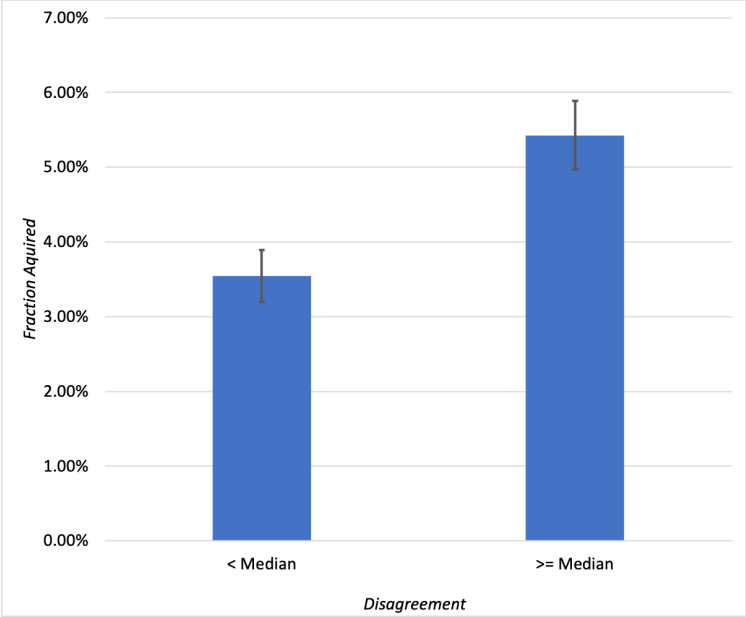


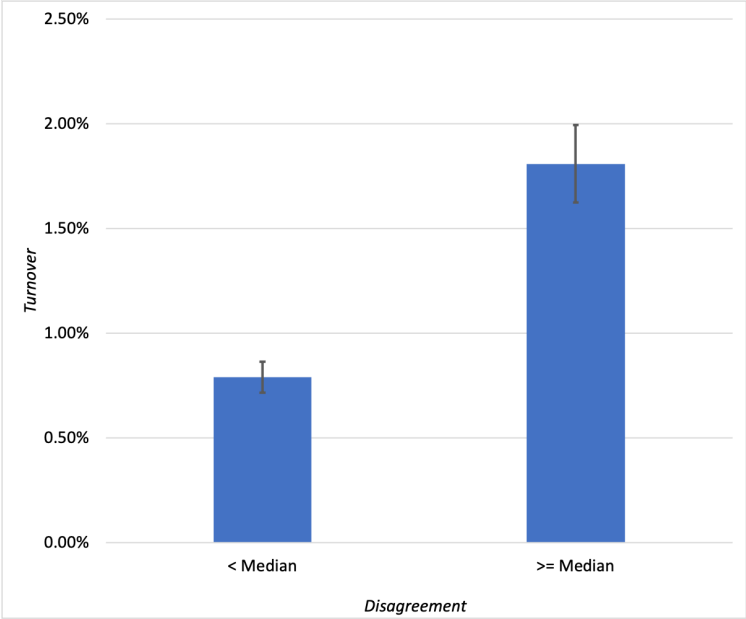
Figure 2: Shares acquired and investor disagreement

Note: Panel (a) plots the fraction of shares outstanding acquired by a focal activist investor during the 60-day period prior to a Schedule 13D filing. Panel (b) plots the average turnover during the 60-day period prior to a Schedule 13D filing. Panel (c) plots the average ex-activist turnover during the 60-day period prior to a Schedule 13D filing. The x-axis represents the average level of disagreement during those 60 days. The level of disagreement is divided above and below the median level of disagreement. The standard error bars represent confidence intervals at the 95% level.

(a) Shares Acquired



(b) Average Turnover



(c) Average Ex-Activist Turnover

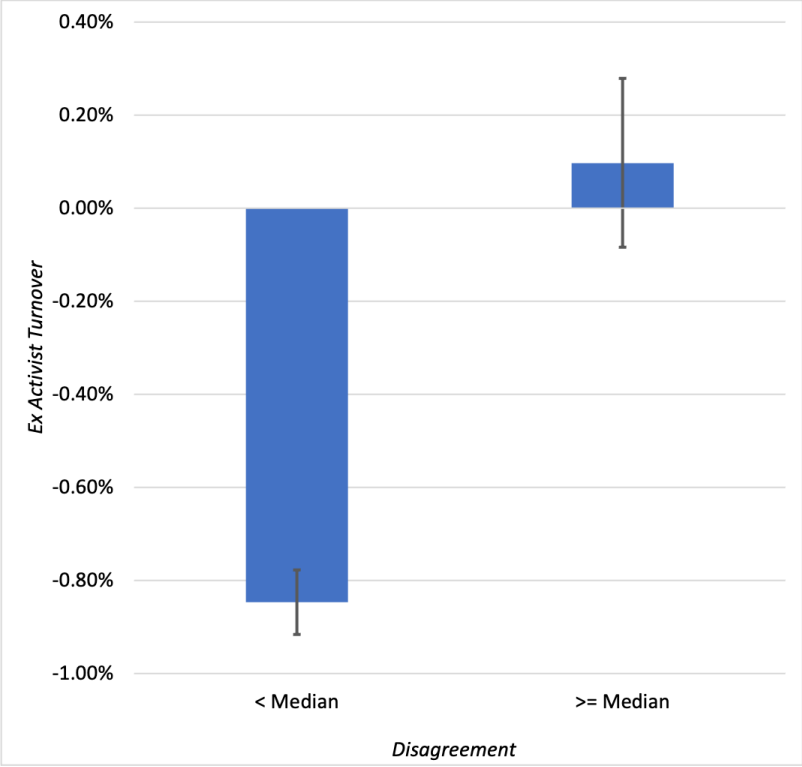


Figure 3: Messages and Activism

Note: This figure plots the number of activist mentions in the 80 days prior to and 20 days following a Schedule 13D filing date. We treat a message as mentioning activism if it uses any of words "activism,""activist," or any of the following activists: Icahn, Ackman, Peltz, Loeb, Singer, Pickens, Burkle, Pratte, or Soros.

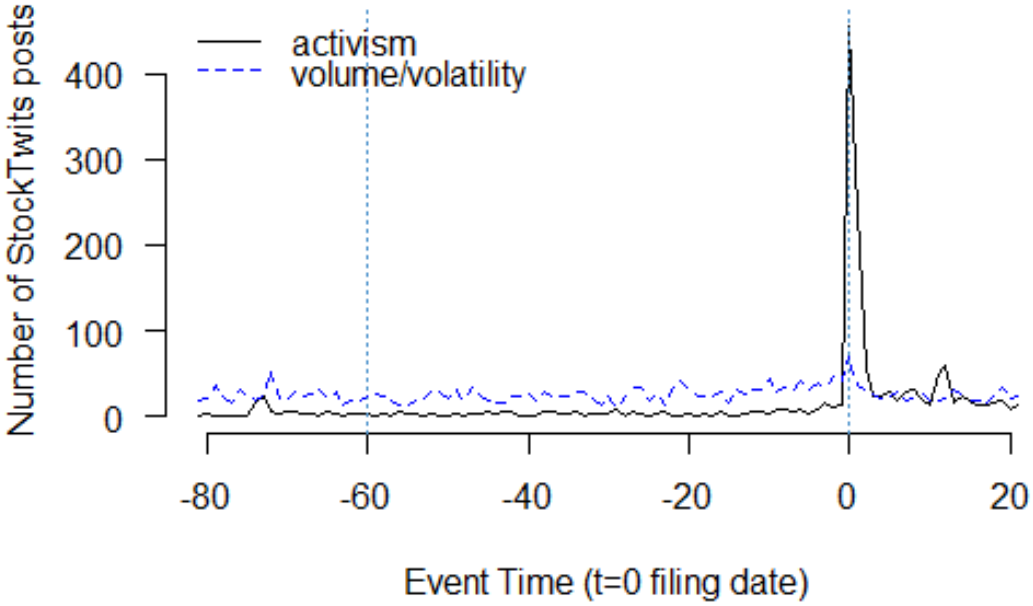
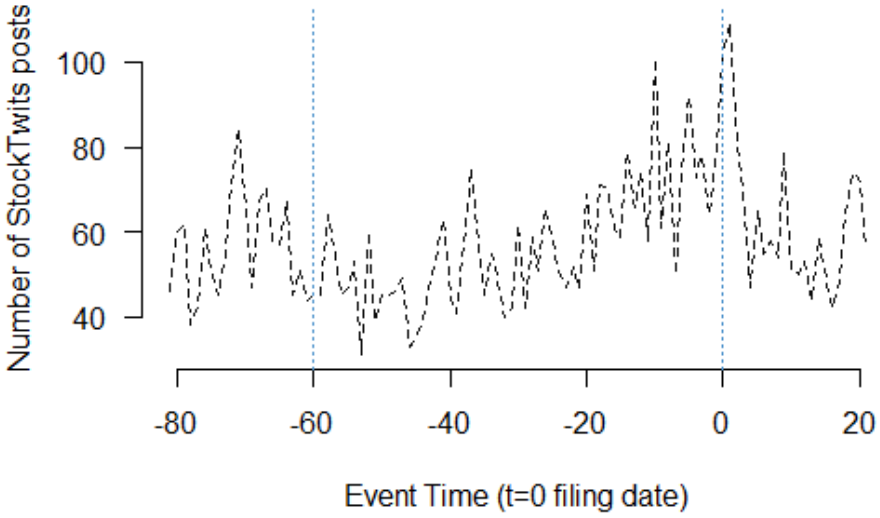


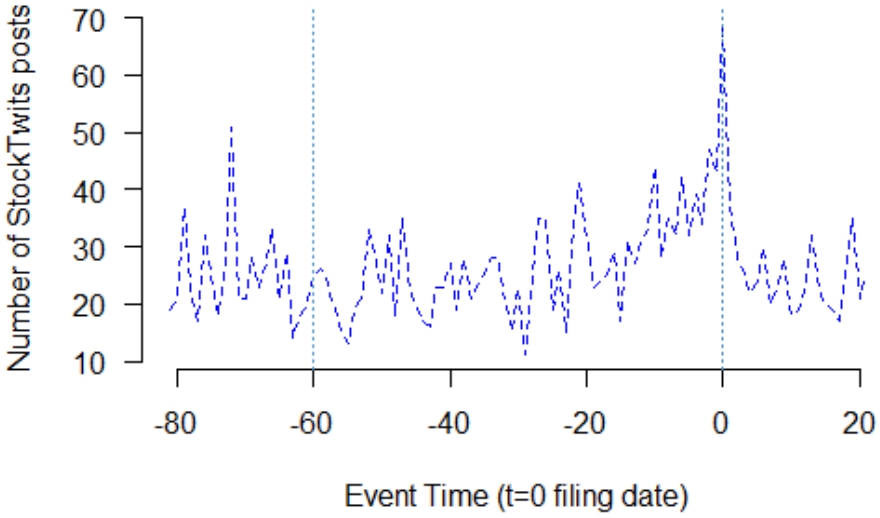
Figure 4: Messages and Price and Volume mentions

Note: Panel (a) plots the number of messages that mention prices within the 80 days prior to and 20 days following a Schedule 13D filing date. We treat a message as mentioning prices if any of words "price,""chart," or "trend" is used. Panel (b) plots the number of messages that mention prices in the 80 days prior to and 20 days following a Schedule 13D filing date. We treat a message as mentioning volume if any of the words "vol.,""volatility," "volatile," "volume," or "turnover" is used.

(a) Price mentions



(b) Volume mentions



Tables

Table 1: Summary Statistics

Note: In this table we report summary statistics or firm-day-level variables during the 60-day period prior to a Schedule 13D filing. The sample covers the 2010-2018 period when StockTwits data are available. All potentially unbounded variables are winsorized at 1% and 99%.

Firm-day level variables	N (1)	mean (2)	sd (3)	min (4)	25% (5)	50% (6)	75% (7)	max (8)
Panel A: Entire Sample								
Turnover	15,743,814	1.321	4.989	0.000	0.189	0.449	0.966	93.829
Disagreement	15,743,814	0.054	0.215	0.000	0.000	0.000	0.000	1.000
Disagreement - Night	15,743,814	0.025	0.150	0.000	0.000	0.000	0.000	1.000
Disagreement - Day	15,743,814	0.035	0.176	0.000	0.000	0.000	0.000	1.000
Number of messages	15,743,814	1.290	16.667	0.000	0.000	0.000	0.000	5769.000
Number of messages - Night	15,743,814	0.844	11.413	0.000	0.000	0.000	0.000	4237.000
Number of messages - Day	15,743,814	0.446	6.410	0.000	0.000	0.000	0.000	3953.000
Return	15,743,814	0.000	0.027	-0.174	-0.009	0.000	0.009	0.224
Amihud	15,743,814	0.859	10.444	0.000	0.000	0.004	0.034	260.558
Bid-Ask Spread	15,743,814	1.536	3.901	0.000	0.134	0.352	1.124	51.724
Panel B: 60-day period prior to Schedule 13D filings								
Trade Dummy	55,958	37.282	48.356	0.000	0.000	0.000	100.000	100.000
Activist Turnover	55,958	0.090	0.260	0.000	0.000	0.000	0.047	1.790
Ex Activist Turnover	55,958	-0.417	3.715	-1.500	-1.364	-1.085	-0.510	92.315
Turnover	55,958	1.252	3.940	0.000	0.210	0.527	1.167	93.829
Disagreement	55,958	0.055	0.219	0.000	0.000	0.000	0.000	1.000
Disagreement - Night	55,958	0.024	0.149	0.000	0.000	0.000	0.000	1.000
Disagreement - Day	55,958	0.034	0.174	0.000	0.000	0.000	0.000	1.000
Number of messages	55,958	0.899	6.971	0.000	0.000	0.000	0.000	622.000
Number of messages - Night	55,958	0.584	5.187	0.000	0.000	0.000	0.000	512.000
Number of messages - Day	55,958	0.316	2.752	0.000	0.000	0.000	0.000	405.000
Return	55,958	0.089	3.247	-17.403	-1.093	0.000	1.083	22.371
Amihud	55,519	0.576	8.072	0.000	0.001	0.007	0.048	260.558
Bid-Ask Spread	55,958	1.645	3.530	0.000	0.205	0.498	1.520	51.724

Table 2: Investor Disagreement and Stock Turnover

Note: In this table we report results pertaining to the relationship between turnover and disagreement among investors. The dependent variable is turnover on day *t multiplied by 100. Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. The sample covers 2010-2018. All regressions include firm and date fixed effects where indicated. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Turnover							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disagreement	0.2147***	0.1862***	0.2224***	0.2193***			
	(0.013)	(0.014)	(0.013)	(0.013)			
Number of messages	0.0248***	0.0152***	0.0249***	0.0468***			
	(0.006)	(0.005)	(0.006)	(0.009)			
Disagreement (t-1)				0.0001			
				(0.005)			
Number of messages (t-1)				-0.0316***			
				(0.006)			
Disagreement - Night					0.1154***	0.0657***	0.1205***
					(0.008)	(0.009)	(0.008)
Disagreement - Day					0.2165***	0.1889***	0.2204***
					(0.015)	(0.015)	(0.015)
Number of messages - Night					-0.0115***	-0.0200***	-0.0113***
					(0.003)	(0.005)	(0.003)
Number of messages - Day					0.0420***	0.0312***	0.0419***
					(0.010)	(0.009)	(0.010)
Turnover (t-1)	0.6223***	0.7891***	0.6212***	0.6323***	0.6202***	0.7875***	0.6190***
	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)	(0.014)	(0.013)
Activist Turnover (t-1)	-1.3756***	-2.2248***	-1.3325***	-1.3366***	-1.3717***	-2.2154***	-1.3281***
	(0.139)	(0.177)	(0.139)	(0.137)	(0.139)	(0.177)	(0.138)
Observations	15,732,289	15,732,294	15,732,289	15,732,289	15,732,289	15,732,294	15,732,289
R-squared	0.680	0.647	0.682	0.686	0.682	0.649	0.684
Disagreement effect size	16.25%	14.10%	16.84%	16.60%			
Disagreement Night effect size					8.737%	4.974%	9.123%
Mean	1.321	1.321	1.321	1.321	1.321	1.321	1.321
Firm FEs	X		X	X	X		X
Date FEs		X	X	X		X	X

Table 3: Investor Disagreement and Returns

Note: In this table we report results pertaining to the relationship between returns and disagreement among investors. The dependent variable, returns, is calculated as the close-to-close return obtained from CRSP. *Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day t. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day t, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day t. All disagreement measures are standardized. The sample covers 2010-2018. All regressions include firm and date fixed effects where indicated. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Returns							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disagreement	0.0908***	0.0705***	0.0938***	0.0988***			
	(0.005)	(0.005)	(0.004)	(0.004)			
Number of messages	0.0052***	0.0032***	0.0052***	0.0128***			
	(0.001)	(0.001)	(0.001)	(0.003)			
Disagreement (t-1)				-0.0287***			
				(0.002)			
Number of messages (t-1)				-0.0109***			
				(0.002)			
Disagreement - Night					-0.0033	-0.0168***	-0.0002
					(0.003)	(0.002)	(0.002)
Disagreement - Day					0.1077***	0.0881***	0.1085***
					(0.007)	(0.006)	(0.006)
Number of messages - Night					-0.0198***	-0.0206***	-0.0195***
					(0.005)	(0.005)	(0.005)
Number of messages - Day					0.0181***	0.0152***	0.0180***
					(0.005)	(0.004)	(0.005)
Turnover (t-1)	-0.0137***	-0.0098***	-0.0139***	-0.0094***	-0.0140***	-0.0100***	-0.0141***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Activist Turnover (t-1)	0.4591***	0.4742***	0.4818***	0.4865***	0.4650***	0.4809***	0.4863***
	(0.061)	(0.058)	(0.059)	(0.059)	(0.061)	(0.057)	(0.058)
Observations	15,732,339	15,732,339	15,732,339	15,732,339	15,732,339	15,732,339	15,732,339
R-squared	0.003	0.107	0.108	0.110	0.006	0.109	0.111
Disagreement effect size	314.04%	243.83%	324.42%	341.71%			
Disagreement Night effect size					-11.413%	-58.105%	-0.692%
Mean	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289
Firm FEs	X		X	X	X		X
Date FEs		X	X	X		X	X

Table 4: Effects of Investor Disagreement on Activist Trading

Note: In this table we report results pertaining to the relationship between activist trading and disagreement among investors. *Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. For Panel A, the dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t, and zero otherwise. The sample covers the 60-day period prior to Schedule 13D filings during 2010-2018. For Panel B, the dependent variable is activist turnover for firm i on day t, multiplied by 100. The sample covers days on which activists trade during the 60-day period prior to Schedule 13D filings during 2010-2018. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	0.9027***	
	(0.202)	
Number of messages	0.1441***	
	(0.026)	
Disagreement - Night		0.8883***
		(0.205)
Disagreement - Day		0.3839*
		(0.211)
Number of messages - Night		0.2715***
		(0.088)
Number of messages - Day		0.0679*
		(0.036)
Turnover (t-1)	0.4084***	0.3952***
	(0.064)	(0.064)
Trade Dummy (t-1)	0.4633***	0.4635***
	(0.008)	(0.008)
Observations	55,916	55,916
R-squared	0.414	0.414
Disagreement effect size	2.421%	
Disagreement Night effect size		2.383%
Mean	37.282	37.282
Firm FEs	X	X
Date FEs	X	X

Panel B: Dependent variable – Activist Turnover		
	(1)	(2)
Disagreement	0.0451***	
	(0.004)	
Number of messages	0.0025***	
	(0.001)	
Disagreement - Night		0.0407***
		(0.004)
Disagreement - Day		0.0294***
		(0.004)
Number of messages - Night		0.0017
		(0.001)
Number of messages - Day		0.0017*
		(0.001)
Turnover (t-1)	0.0016	0.0014
	(0.001)	(0.001)
Activist Turnover (t-1)	0.1456***	0.1488***
	(0.015)	(0.015)
Observations	20,832	20,832
R-squared	0.428	0.433
Disagreement effect size	18.732%	
Disagreement Night effect size		16.905%
Mean	0.241	0.241
Firm FEs	X	X
Date FEs	X	X

Table 5: Opportunistic Insider Traders

Note: For this table, weexamine the relationship between disagreement and the incidence of opportunistic insider trades (studied in Cohen et al. (2012)). All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at firm and date level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Purchase Dummy × *100*		*Sale Dummy* × *100*	
	(1)	(2)	(3)	(4)
Disagreement	0.0078***		0.0468***	
	(0.002)		(0.004)	
Number of messages	0.0001		0.0005	
	(0.000)		(0.000)	
Disagreement - Night		-0.0002		0.0178***
		(0.002)		(0.003)
Disagreement - Day		0.0065***		0.0360***
		(0.002)		(0.004)
Number of messages - Night		-0.0001		-0.0010*
		(0.000)		(0.001)
Number of messages - Day		0.0002*		0.0010
		(0.000)		(0.001)
Trade Dummy × 100 (t-1)	0.3177***	0.3177***	0.2765***	0.2765***
	(0.019)	(0.019)	(0.009)	(0.009)
Turnover (t-1)	0.0002	0.0002*	-0.0003	-0.0004
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	15,732,422	15,732,422	15,732,422	15,732,422
R-squared	0.126	0.126	0.110	0.110
Disagreement effect size	7.85%		11.74%	
Disagreement Night effect size		-0.20%		4.46%
Mean	0.0994	0.0994	0.3988	0.3988
Firm FEs	X	X	X	X
Date FEs	X	X	X	X

Table 6: Effects of Investor Disagreement on Ex-activist Turnover

Note: In this table, we report the relationship between ex-activist trading and disagreement among investors. The dependent variable, *ex-activist turnover*, is calculated by regressing turnover on activist turnover and taking the residual, and is multiplied by 100. *Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day t. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day t, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day t. All disagreement measures are standardized. For columns (1) and (2), the sample covers the 60-day periods prior to a Schedule 13D filing. For columns (3) and (4) the sample covers days during the 60-day periods prior to Schedule 13D filings, during which some activist turnover occurs. For columns (5) and (6) the sample covers days during the 60-day periods prior to Schedule 13D filings, during which no activist turnover occurs. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Ex-activist Turnover						
	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	0.4888***		0.9038***		0.1276**	
	(0.054)		(0.097)		(0.063)	
Number of messages	0.1690***		0.1509***		0.2130***	
	(0.028)		(0.026)		(0.049)	
Disagreement - Night		0.5334***		0.9590***		0.1526**
		(0.062)		(0.107)		(0.059)
Disagreement - Day		0.3829***		0.6438***		0.1317**
		(0.051)		(0.096)		(0.060)
Number of messages - Night		0.1034*		0.1133**		0.1460
		(0.059)		(0.053)		(0.091)
Number of messages - Day		0.1733***		0.1378***		0.2234***
		(0.034)		(0.030)		(0.057)
Turnover (t-1)	0.1687***	0.1621***	0.0387	0.0305	0.2257***	0.2240***
	(0.021)	(0.021)	(0.024)	(0.024)	(0.034)	(0.036)
Activist Turnover (t-1)	-0.5206***	-0.5203***	-0.8363***	-0.7771***	-0.2063	-0.2074
	(0.116)	(0.119)	(0.171)	(0.160)	(0.148)	(0.149)
Observations	55,916	55,916	20,832	20,832	35,058	35,058
R-squared	0.353	0.367	0.422	0.446	0.537	0.540
Disagreement effect size	117.252%		465.565%		23.230%	
Disagreement night effect size		-140.448%		-553.959%		-27.709%
Mean	-0.417	-0.417	-0.194	-0.194	-0.549	-0.549
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Table 7: Effect of Investor Disagreement on Stock Return

Note: In this table, we report the relationship between stock returns and disagreement among investors. The dependent variable, returns, is calculated as the close-to-close return from CRSP. *Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day t. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day t, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day t. All disagreement measures are standardized. For columns (1) and (2), the sample covers the 60-day periods prior to a Schedule 13D filing. For columns (3) and (4) the sample covers days during the 60-day periods prior to Schedule 13D filings, during which some activist turnover occurs. For columns (5) and (6) the sample covers days during the 60-day periods prior to Schedule 13D filings, during which no activist turnover occurs. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Returns						
	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	0.1980***		0.2662***		0.1082***	
	(0.038)		(0.064)		(0.035)	
Number of messages	0.0227		0.0074		0.0574***	
	(0.014)		(0.017)		(0.016)	
Disagreement - Night		0.0433		0.1158*		-0.0283
		(0.039)		(0.069)		(0.052)
Disagreement - Day		0.2159***		0.3072***		0.1225***
		(0.041)		(0.064)		(0.039)
Number of messages - Night		0.0053		0.0445*		-0.0377
		(0.023)		(0.026)		(0.068)
Number of messages - Day		0.0260		-0.0167		0.0869***
		(0.022)		(0.019)		(0.027)
Turnover (t-1)	-0.0297***	-0.0296***	-0.0420***	-0.0454***	-0.0422**	-0.0372**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.018)	(0.016)
Activist Turnover (t-1)	0.4566***	0.4595***	0.0591	0.0979	0.2778*	0.2754*
	(0.081)	(0.080)	(0.115)	(0.114)	(0.150)	(0.147)
Observations	55,916	55,916	20,832	20,832	35,058	35,058
R-squared	0.144	0.145	0.253	0.256	0.194	0.197
Disagreement effect size	221.892%		108.763%		3369.667%	
Disagreement Night effect size		48.525%		47.313%		881.345%
Mean	0.08923	0.08923	0.24475	0.24475	-0.00321	-0.00321
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Table 8: Effect of Investor Disagreement on Liquidity Measures

Note: In this table, we report the relationship between proxies for liquidity and disagreement among investors. For Panel A, the dependent variable is the Amihud illiquidity measure (based on Amihud 2002). For Panel B, the dependent variable is the bid-ask spread. *Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day t. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day t, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day t. All disagreement measures are standardized. For columns (1) and (2), the sample covers the 60-day periods prior to a Schedule 13D filing. For columns (3) and (4) the sample covers days during the 60-day periods prior to Schedule 13D filings, during which some activist turnover occurs. For columns (5) and (6) the sample covers days during the 60-day periods prior to Schedule 13D filings, during which no activist turnover occurs. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Dependent variable – Amihud						
	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	-0.0180*		-0.0186		-0.0167	
	(0.010)		(0.015)		(0.017)	
Number of messages	0.0004		-0.0000		0.0002	
	(0.001)		(0.000)		(0.004)	
Disagreement - Night		-0.0068		-0.0040		-0.0071
		(0.010)		(0.004)		(0.018)
Disagreement - Day		-0.0120		-0.0179		-0.0197
		(0.009)		(0.016)		(0.014)
Number of messages - Night		0.0041*		-0.0001		0.0183***
		(0.002)		(0.000)		(0.007)
Number of messages - Day		-0.0010		0.0002		-0.0047
		(0.001)		(0.000)		(0.005)
Turnover (t-1)	-0.0033	-0.0035	0.0019	0.0019	-0.0179**	-0.0185**
	(0.003)	(0.003)	(0.001)	(0.001)	(0.009)	(0.009)
Activist Turnover (t-1)	-0.4026***	-0.4026***	-0.0679	-0.0690	-0.3344**	-0.3340**
	(0.094)	(0.094)	(0.048)	(0.049)	(0.160)	(0.160)
Observations	55,477	55,477	20,802	20,802	34,648	34,648
R-squared	0.175	0.175	0.372	0.372	0.227	0.227
Disagreement effect size	-3.124%		-11.345%		-2.027%	
Disagreement Night effect size		-1.180%		-2.440%		-0.862%
Mean	0.576	0.576	0.164	0.164	0.824	0.824
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Panel B: Dependent variable – Bid-ask spread

	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	-0.0113*		-0.0278***		-0.0019	
	(0.006)		(0.010)		(0.008)	
Number of messages	-0.0008		-0.0001		-0.0022	
	(0.001)		(0.001)		(0.002)	
Disagreement - Night		-0.0064		-0.0132		-0.0066
		(0.007)		(0.011)		(0.009)
Disagreement - Day		-0.0048		-0.0172		0.0069
		(0.006)		(0.011)		(0.009)
Number of messages - Night		-0.0033**		-0.0005		-0.0009
		(0.001)		(0.001)		(0.002)
Number of messages - Day		0.0003		0.0002		-0.0027
		(0.001)		(0.001)		(0.002)
Turnover (t-1)	-0.0072***	-0.0071***	-0.0019	-0.0019	-0.0208***	-0.0210***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.006)
Activist Turnover (t-1)	-0.1954***	-0.1962***	-0.0620	-0.0639	-0.1002	-0.1003
	(0.061)	(0.061)	(0.055)	(0.055)	(0.071)	(0.071)
Observations	55,916	55,916	20,832	20,832	35,058	35,058
R-squared	0.674	0.674	0.685	0.685	0.708	0.708
Disagreement effect size	-0.687%		-2.242%		-0.101%	
Disagreement Night effect size		-0.389%		-1.065%		-0.350%
Mean	1.6447	1.6447	1.2399	1.2399	1.8854	1.8854
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Table 9: Effects of Investor Disagreement on Activist Trading with Controls

Note: In this table, we examine whether the relationship between activist trading and disagreement among investors changes when we include controls for return, liquidity, or ex-activist turnover. For Panel A, the dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t, and zero otherwise. The sample covers the 60-day periods prior to Schedule 13D filings. For Panel B, the dependent variable is activist turnover for firm i on day t, multiplied by 100. The sample covers only days on which activist trading occurs during the 60-day period prior to Schedule 13D filings. *Disagreement* is measured from 4 p.m. on day $t-1$ to 4 p.m. on day t. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day t, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day t. All disagreement measures are standardized. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Dependent variable – Trade dummy						
	(1)	(2)	(3)	(4)	(5)	(6)
Disagreement - Night	0.8654***	0.8829***	0.8847***	0.1158	0.8571***	0.5260***
	(0.204)	(0.205)	(0.205)	(0.195)	(0.204)	(0.198)
Disagreement - Day	0.2739	0.3815*	0.3817*	-0.1735	0.2687	0.0583
	(0.215)	(0.211)	(0.212)	(0.211)	(0.215)	(0.214)
Number of messages - Night	0.2692***	0.2729***	0.2700***	0.1227*	0.2693***	0.2037***
	(0.094)	(0.088)	(0.088)	(0.071)	(0.095)	(0.075)
Number of messages - Day	0.0547	0.0675*	0.0681*	-0.1771***	0.0542	-0.0520
	(0.039)	(0.036)	(0.036)	(0.061)	(0.039)	(0.050)
Returns	0.5105***				0.5153***	0.3623***
	(0.072)				(0.072)	(0.072)
Amihud		-0.1826***			-0.1749***	-0.1742***
		(0.022)			(0.022)	(0.022)
Bid-ask			-0.4947***		-0.3649***	-0.3565***
			(0.094)		(0.104)	(0.104)
Ex Activist Turnover				1.3194***		0.6356***
				(0.083)		(0.071)
Trade Dummy (t-1)	0.4068***	0.3921***	0.3905***	0.1761***	0.4006***	0.3003***
	(0.064)	(0.064)	(0.064)	(0.067)	(0.064)	(0.064)
Turnover (t-1)	0.4622***	0.4641***	0.4628***	0.4629***	0.4623***	0.4638***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Observations	55,916	55,477	55,916	55,916	55,477	55,477
R-squared	0.415	0.415	0.415	0.421	0.416	0.418
Disagreement Night effect size	2.321%	2.368%	2.373%	0.311%	2.299%	1.411%
Mean	37.282	37.282	37.282	37.282	37.282	37.282
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Panel B: Dependent variable – Activist Turnover						
	(1)	(2)	(3)	(4)	(5)	(6)
Disagreement - Night	0.0395***	0.0407***	0.0407***	0.0153***	0.0396***	0.0266***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Disagreement - Day	0.0264***	0.0292***	0.0294***	0.0120***	0.0262***	0.0187***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Number of messages - Night	0.0012	0.0017	0.0017	-0.0011	0.0012	-0.0001
	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Number of messages - Day	0.0019**	0.0017*	0.0017*	-0.0020*	0.0019**	-0.0002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Returns	0.0098***				0.0098***	0.0044***
	(0.001)				(0.001)	(0.001)
Amihud		-0.0028**			-0.0029**	-0.0029**
		(0.001)			(0.001)	(0.001)
Bid-ask			-0.0018		-0.0020	-0.0019
			(0.001)		(0.002)	(0.001)
Ex Activist Turnover				0.0238***		0.0142***
				(0.001)		(0.001)
Activist Turnover (t-1)	0.0018*	0.0014	0.0014	0.0005	0.0018*	0.0011
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Turnover (t-1)	0.1479***	0.1482***	0.1487***	0.1637***	0.1471***	0.1588***
	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.015)
Observations	20,832	20,802	20,832	20,832	20,802	20,802
R-squared	0.440	0.434	0.433	0.493	0.440	0.458
Dis Night - Dis Day effect size	16.406%	16.905%	16.905%	6.355%	16.448%	11.048%
Mean	0.241	0.241	0.241	0.241	0.241	0.241
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Internet Appendix to:

Does Disagreement Facilitate Informed Trading? Evidence from Activist Investors

This Internet Appendix contains a comprehensive set of additional statistics and robustness exercises for our paper, "Does Disagreement Facilitate Informed Trading? Evidence from Activist Investors"

A Robustness

In this section, we report the results of a battery of robustness exercises in which we focus on the main findings documented in Section 4.2. First, we evaluate the possibility that the empirical link between activist trading and investor disagreement is driven by zero-message days for which disagreement is imputed at zero following Cookson and Niessner (2020). To do this, we restrict the sample to days on which the StockTwits message volume is positive and report the estimation results for the extensive margin specification in Panel A of Appendix Table A.2. As is the case with our main findings, here we observe a tight link between disagreement and the likelihood that activist trading occurs, and in column 2 we see that the relationship is stronger for overnight disagreement than for contemporaneous day disagreement.

Second, we consider whether the relationship between disagreement and activist trading is driven by variation in overnight returns using overnight return data from Bogousslavsky (2021b). In Panel A of Appendix Table A.3, we report the estimates of a specification that controls for overnight returns. Although we lose a significant part of the sample because the overnight returns data run only through 2015, we find a pattern that is similar to what we find in our main results.

Third, we consider a specification in which we control for event fixed effects instead of firm fixed effects, which accounts for time-varying conditions that would lead a firm to be a target of activism. In Table A.4 we report the results, which are quantitatively similar to our main findings.

Fourth, we evaluate the possibility that the timing of trades is driven by the run-up period in the final days before a filing in which information is more likely to have leaked to the broader market. If the results reflected primarily the behavior of activists in the days leading up to a filing, it would be more likely that disagreement and activist trading are jointly responding to the information leakage. To address this concern, we re-estimate the main specification but we exclude the last 10 days prior to the filing date. Table A.5 presents these results, which are similar quantitatively to our main specifications that use trading throughout the entire window.

Fifth, we show that our results are robust to controlling for news coverage, using Ravenpack data on Dow Jones News Wire coverage. We augment the main specification with an indicator variable *DJNW* that takes value of 1 if a company had been mentioned in at least one news story on Dow Jones News Wire and zero otherwise. In Table A.6 we report the results, which are similar quantitatively to those obtained in our main specifications. Thus, the relationship between disagreement and informed trading is not likely to be driven by news coverage.

Sixth, we evaluate the possibility that the main result pertaining to disagreement merely reflects variation in sentiment about a firm at the same time horizon, which could drive returns and activist trading incentives directly (not through either liquidity or valuation motives). To do this, we control directly for average sentiment, and in the specifications that consider day and night separately we include separate sentiment measures for each. In Table A.7 we report the results obtained by including this additional control, which are virtually identical to our main results. Indeed, disagreement exhibits a strong and robust relationship to activist trading, whereas sentiment does not (at least after controlling for disagreement).

Finally, in a vein similar to that of the sentiment test, for Table A.8 we control for retail order imbalance (buys minus sells) using retail buys and sells identified by the Boehmer et al. (2020)

method of processing TAQ data. Although informed activist investors are more likely to acquire shares in the presence of retail selling pressure, including this control does not meaningfully affect our estimated coefficients on $Disagreement_{it}$ or $Disagreement\ Night_{it}$.

Figure A.1: Messages and Activism

Note: In this figure, we plot the number of activist mentions in the 80 days prior to and 20 days following a Schedule 13D filing date. We consider a message as mentioning activism if it uses any of the words "activism", "activist," or any of the following activists: Icahn, Ackman, Peltz, Loeb, Singer, Pickens, Burkle, Pratte, or Soros. We exclude days 0 and 1, after the 13D filing, to account for the possibility that mechanical posters post the information on StockTwits whenever a 13D filing occurs.

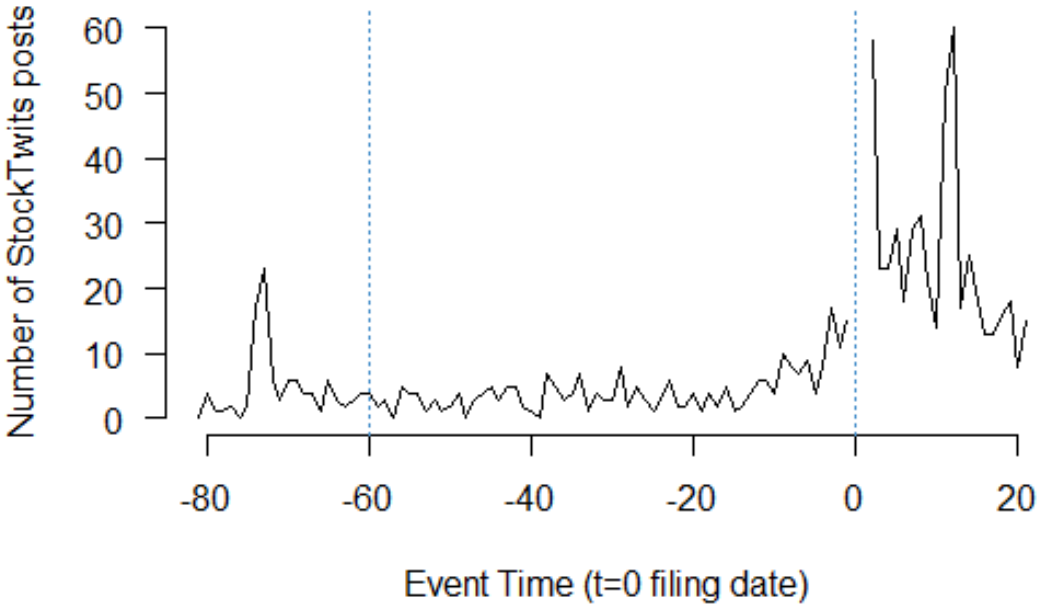


Table A.1: Investor Disagreement and Stock Liquidity

Note: In this table, we report the relationship between liquidity measures and disagreement among investors. For Panel A, the dependent variable is the Amihud illiquidity measure (based on Amihud 2002). For Panel B, the dependent variable is the bid-ask spread. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. The sample covers 2010-2018. All regressions include firm and date fixed effects where indicated. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Dependent variable – Amihud Measure							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disagreement	-0.0633***	-0.1569***	-0.0517***	-0.0436***			
	(0.005)	(0.006)	(0.005)	(0.004)			
Number of messages	-0.0017	0.0001	-0.0016	-0.0014**			
	(0.001)	(0.000)	(0.001)	(0.001)			
Disagreement (t-1)				-0.0379***			
				(0.004)			
Number of messages (t-1)				-0.0001			
				(0.001)			
Disagreement - Night					-0.0241***	-0.0626***	-0.0177***
					(0.004)	(0.003)	(0.003)
Disagreement - Day					-0.0489***	-0.1007***	-0.0415***
					(0.005)	(0.004)	(0.004)
Number of messages - Night					-0.0009	-0.0001	-0.0008
					(0.001)	(0.000)	(0.001)
Number of messages - Day					-0.0018*	0.0008***	-0.0017*
					(0.001)	(0.000)	(0.001)
Turnover (t-1)	-0.0244***	-0.0371***	-0.0256***	-0.0246***	-0.0242***	-0.0371***	-0.0254***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)
Activist Turnover (t-1)	-0.3619***	-0.5106***	-0.3381***	-0.3299***	-0.3653***	-0.5205***	-0.3405***
	(0.065)	(0.083)	(0.065)	(0.066)	(0.065)	(0.084)	(0.065)
Observations	15,326,193	15,326,199	15,326,193	15,326,193	15,326,193	15,326,199	15,326,193
R-squared	0.116	0.002	0.117	0.117	0.116	0.002	0.117
Disagreement effect size	-7.37%	-18.27%	-6.02%	-5.08%			
Disagreement Night effect size					-2.806%	-7.289%	-2.061%
Mean	0.859	0.859	0.859	0.859	0.859	0.859	0.859
Firm FEs	X		X	X	X		X
Date FEs		X	X	X		X	X

Panel B: Dependent variable – Bid-ask Spread							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disagreement	-0.0588***	-0.1574***	-0.0501***	-0.0411***			
	(0.004)	(0.006)	(0.003)	(0.003)			
Number of messages	-0.0018***	0.0001	-0.0017***	-0.0011***			
	(0.001)	(0.000)	(0.001)	(0.000)			
Disagreement (t-1)				-0.0426***			
				(0.003)			
Number of messages (t-1)				-0.0006**			
				(0.000)			
Disagreement - Night					-0.0279***	-0.0706***	-0.0230***
					(0.002)	(0.003)	(0.002)
Disagreement - Day					-0.0471***	-0.0939***	-0.0417***
					(0.003)	(0.005)	(0.003)
Number of messages - Night					-0.0012*	-0.0006**	-0.0010
					(0.001)	(0.000)	(0.001)
Number of messages - Day					-0.0018***	0.0011*	-0.0018***
					(0.001)	(0.001)	(0.001)
Turnover (t-1)	-0.0165***	-0.0405***	-0.0182***	-0.0170***	-0.0162***	-0.0406***	-0.0179***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Activist Turnover (t-1)	-0.2308***	-0.0741	-0.2082***	-0.1991***	-0.2332***	-0.0840	-0.2100***
	(0.064)	(0.098)	(0.063)	(0.063)	(0.064)	(0.098)	(0.063)
Observations	15,732,188	15,732,193	15,732,188	15,732,188	15,732,188	15,732,193	15,732,188
R-squared	0.501	0.011	0.505	0.505	0.501	0.010	0.505
Disagreement effect size	-3.83%	-10.24%	-3.26%	-2.67%			
Disagreement Night effect size					-1.816%	-4.595%	-1.497%
Mean	1.536	1.536	1.536	1.536	1.536	1.536	1.536
Firm FEs	X		X	X	X		X
Date FEs		X	X	X			

Table A.2: Effects of Investor Disagreement on Activist Trading:
Non-zero-message Days

Note: In this table, we report the relationship between activist trading and disagreement among investors on days with non-zero messages on StockTwits. For column (3) we examine the relationship on days with non-zero messages posted overnight. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t and zero otherwise. The sample covers 60-day periods prior to Schedule 13D filings during 2010-2018. The sample covers days on which activist trading occurs during 60-day periods prior to Schedule 13D filings during 2010-2018. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy			
	(1)	(2)	(3)
Disagreement	0.8104***		
	(0.243)		
Number of messages	0.1383***		
	(0.028)		
Disagreement - Night		0.8289***	0.8817***
		(0.224)	(0.250)
Disagreement - Day		0.3477	0.7168*
		(0.240)	(0.400)
Number of messages - Night		0.2468**	0.2652***
		(0.096)	(0.101)
Number of messages - Day		0.0704*	0.0391
		(0.041)	(0.039)
Turnover (t-1)	0.2308***	0.2102**	0.1138
	(0.086)	(0.086)	(0.096)
Trade Dummy (t-1)	0.4373***	0.4376***	0.4233***
	(0.013)	(0.013)	(0.018)
Observations	11,509	11,509	6,122
R-squared	0.515	0.515	0.604
Disagreement effect size	1.999%		
Disagreement Night effect size		2.045%	2.175%
Mean	40.539	40.539	40.539
Firm FEs	X	X	X
Date FEs	X	X	X

Table A.3: Effects of Investor Disagreement on Activist Trading:
Controlling for Overnight Returns

Note: In this table, we report the relationship between activist trading and disagreement among investors while controlling for overnight returns. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. Overnight returns are calculated as the daily midquote return divided by the intraday return computed using the midquote at 9:45am (for more details see Bogousslavsky (2021a)) . The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t and zero otherwise. The sample covers 60-day periods prior to Schedule 13D filings during 2010-2015. The sample covers days on which activist trading occurs during 60-day periods prior to Schedule 13D filings during 2010-2015. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	1.0298***	
	(0.304)	
Number of messages	0.1868***	
	(0.039)	
Disagreement - Night		0.6008*
		(0.351)
Disagreement - Day		0.5282
		(0.325)
Number of messages - Night		0.5783**
		(0.230)
Number of messages - Day		0.0482
		(0.059)
Turnover (t-1)	0.5231***	0.5133***
	(0.063)	(0.064)
Trade Dummy (t-1)	0.4938***	0.4938***
	(0.013)	(0.013)
Overnight Returns	0.6487***	0.6234***
	(0.105)	(0.105)
Observations	21,931 21,931	
R-squared	0.466	0.467
Disagreement effect size	2.646%	
Disagreement Night effect size		1.544%
Mean	38.913	38.913
Firm FEs	X	X
Date FEs	X	X

Table A.4: Effects of Investor Disagreement on Activist Trading:
Event Fixed Effects

Note: In this table, we report the relationship between activist trading and disagreement among investors while controlling for event fixed effects. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t, and zero otherwise. The sample covers 60-day periods prior to Schedule 13D filings during 2010-2018. The sample covers days on which activists trade during 60-day periods prior to Schedule 13D filings during 2010-2018. All regressions include event and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the event and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	0.7970***	
	(0.200)	
Number of messages	0.1447***	
	(0.026)	
Disagreement - Night		0.8152***
		(0.207)
Disagreement - Day		0.3247
		(0.211)
Number of messages - Night		0.2688***
		(0.089)
Number of messages - Day		0.0718**
		(0.034)
Turnover (t-1)	0.4508***	0.4371***
	(0.060)	(0.061)
Trade Dummy (t-1)	0.4137***	0.4139***
	(0.008)	(0.008)
Observations	55,915	55,915
R-squared	0.432	0.432
Disagreement effect size	2.138%	
Disagreement Night effect size		2.187%
Mean	37.282	37.282
Event FEs	X	X
Date FEs	X	X

Table A.5: Effects of Investor Disagreement on Activist Trading:
Excluding Days t-10 to t-0

Note: In this table, we report the relationship between activist trading and disagreement among investors, excluding the 10 days leading up to a filing. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t and zero otherwise. The sample covers days on which activists trade during 50-day periods prior to Schedule 13D filings during 2010-2018. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	0.9489***	
	(0.219)	
Number of messages	0.1419***	
	(0.026)	
Disagreement - Night		0.8791***
		(0.222)
Disagreement - Day		0.4862**
		(0.229)
Number of messages - Night		0.2732***
		(0.081)
Number of messages - Day		0.0582*
		(0.034)
Turnover (t-1)	0.4479***	0.4335***
	(0.072)	(0.073)
Trade Dummy (t-1)	0.4315***	0.4316***
	(0.009)	(0.009)
Observations	46,144	46,144
R-squared	0.434	0.434
Disagreement effect size	2.781%	
Disagreement Night effect size		2.577%
Mean	34.115	34.115
Firm FEs	X	X
Date FEs	X	X

Table A.6: Effects of Investor Disagreement on Activist Trading:
Controlling for traditional media coverage

Note: In this table, we report the relationship between activist trading and disagreement among investors while controlling for news coverage of the company on day *t*. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t and zero otherwise. The *DJNW dummy* equals 1 if the company had at least one story on Dow Jones News Wire on day *t*, and 0 otherwise. The sample covers days on which activists trade during the 48-day period prior to Schedule 13D filings during 2010-2018. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	0.8717***	
	(0.202)	
Number of messages	0.1417***	
	(0.026)	
Disagreement - Night		0.8734***
		(0.205)
Disagreement - Day		0.3606*
		(0.212)
Number of messages - Night		0.2689***
		(0.087)
Number of messages - Day		0.0661*
		(0.036)
Turnover (t-1)	0.4069***	0.3939***
	(0.063)	(0.064)
Trade Dummy (t-1)	0.4633***	0.4635***
	(0.008)	(0.008)
DJNW dummy 1.3718	1.3721	
(0.949)	(0.948)	
Observations	55,916	55,916
R-squared	0.414	0.414
Disagreement effect size	2.338%	
Disagreement Night effect size		2.343%
Mean	37.282	37.282
Firm FEs	X	X
Date FEs	X	X

Table A.7: Effects of Investor Disagreement on Activist Trading:
Controlling for Investor Sentiment

Note: In this table, we report the relationship between activist trading and disagreement among investors, while controlling for average investor sentiment. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. Average investor sentiment is defined as the average of message sentiment, where we denote a bullish message as +1 and a bearish message as -1. If there are no messages that day, the average sentiment is set to 0. The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day , and zero otherwise. The sample covers 60-day periods prior to Schedule 13D filings during 2010-2018. The sample covers days on which activists trade during 60-day periods prior to Schedule 13D filings during 2010-2018. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	0.9009***	
	(0.202)	
Number of messages	0.1446***	
	(0.026)	
Avg Sentiment	-0.1234	
	(0.452)	
Disagreement - Night		0.8751***
		(0.204)
Disagreement - Day		0.3873*
		(0.213)
Number of messages - Night		0.2683***
		(0.087)
Number of messages - Day		0.0647*
		(0.036)
Avg. Sentiment Night		0.2843
		(0.614)
Avg Sentiment Day		0.6402
		(0.567)
Turnover (t-1)	0.4087***	0.3924***
	(0.064)	(0.064)
Trade Dummy (t-1)	0.4633***	0.4635***
	(0.008)	(0.008)
Observations	55,916	55,916
R-squared	0.414	0.414
Disagreement effect size	2.416%	
Disagreement Night effect size		2.347%
Mean	37.282	37.282
Firm FEs	X	X
Date FEs	X	X

Table A.8: Effects of Investor Disagreement on Activist Trading:
Controlling for Retail Order Imbalance

Note: In this table, we report the relationship between activist trading and disagreement among investors while controlling for retail order imbalance. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. Average investor sentiment is defined as the average of message sentiment, where we denote a bullish message as +1 and a bearish message as -1. If there are no messages on a given day, the average sentiment is set to 0. The dependent variable is an indicator variable that equals 100 if there was activist trading for firm i on day t and zero otherwise. *Retail Order Imbalance* is calculated as the number of retail buys minus the number of retail sells, divided by the number of retail buys plus the number of sells. Retail buys and sells are identified using the method proposed in Boehmer et al. (2020) using TAQ data. The sample covers 60-day periods prior to Schedule 13D filings during 2010-2018. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Trade dummy		
	(1)	(2)
Disagreement	0.8104***	
	(0.203)	
Number of messages	0.1614***	
	(0.028)	
Disagreement - Night		0.8174***
		(0.208)
Disagreement - Day		0.3582*
		(0.214)
Number of messages - Night		0.2831***
		(0.095)
Number of messages - Day		0.0823**
		(0.041)
Retail Order Imbalance	-0.8711**	-0.8577**
	(0.383)	(0.383)
Turnover (t-1)	0.3948***	0.3842***
	(0.064)	(0.064)
Trade Dummy (t-1)	0.4707***	0.4708***
	(0.008)	(0.008)
Observations	51,866	51,866
R-squared	0.420	0.420
Disagreement effect size	2.125%	
Disagreement Night effect size		2.143%
Mean	38.136	38.136
Firm FEs	X	X
Date FEs	X	X

Table A.9: Effects of Investor Disagreement on Ex-Activist Turnover

Note: In this table, we report the relationship between ex-activist trading and disagreement among investors. Ex-activist turnover is measured as the number of shares traded on day t minus the number of shares traded by activist investors on date t, divided by shares outstanding, and is multiplied by 100. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t* and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. All disagreement measures are standardized. For columns (1) and (2), the sample covers 60-day periods prior to Schedule 13D filings. For columns (3) and (4) the sample covers days during 60-day periods prior to Schedule 13D filings, that have some activist turnover. For columns (5) and (6) the sample covers days during 60-day periods prior to Schedule 13D filings, during which no activist turnover occurs. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at firm and date level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Ex-activist Turnover						
	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	0.4888***		0.9038***		0.1276**	
	(0.054)		(0.097)		(0.063)	
Number of messages	0.1690***		0.1509***		0.2130***	
	(0.028)		(0.026)		(0.049)	
Disagreement - Night		0.5334***		0.9590***		0.1526**
		(0.062)		(0.107)		(0.059)
Disagreement - Day		0.3829***		0.6438***		0.1317**
		(0.051)		(0.096)		(0.060)
Number of messages - Night		0.1034*		0.1133**		0.1460
		(0.059)		(0.053)		(0.091)
Number of messages - Day		0.1733***		0.1378***		0.2234***
		(0.034)		(0.030)		(0.057)
Turnover (t-1)	0.1687***	0.1621***	0.0387	0.0305	0.2257***	0.2240***
	(0.021)	(0.021)	(0.024)	(0.024)	(0.034)	(0.036)
Activist Turnover (t-1)	-0.5206***	-0.5203***	-0.8363***	-0.7771***	-0.2063	-0.2074
	(0.116)	(0.119)	(0.171)	(0.160)	(0.148)	(0.149)
Observations	55,916	55,916	20,832	20,832	35,058	35,058
R-squared	0.353	0.367	0.422	0.446	0.537	0.540
Disagreement effect size	117.252%		465.565%		23.230%	
Disagreement night effect size		-140.448%		-553.959%		-27.709%
Mean	-0.417	-0.417	-0.194	-0.194	-0.549	-0.549
Firm FEs	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X

Table A.10: Effects of Investor Disagreement on Liquidity Measures:
Alternative liquidity measures

Note: In this table, we report the relationship between proxies for liquidity and disagreement among investors. The dependent variables are the quoted spread, the effective spread, the realized spread, and price impact. The liquidity measures are defined as in *Eaton et al. (2021b)*. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. For columns (1), (3), (5), and (7) the sample covers days during 60-day periods prior to Schedule 13D filings, on which some activist turnover occurs. For columns (2), (4), (6), and (8) the sample covers days during 60-day periods prior to Schedule 13D filings, on which no activist turnover occurs. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Liquidity Measures								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Quoted Spread		Effective Spread		Realized Spread		Price Impact	
Trade dummy =	1	0	1	0	1	0	1	0
Disagreement - Night	-0.0690**	-0.0221	-0.0306	0.0518**	-0.0884**	0.0118	0.0573**	0.0188
	(0.034)	(0.040)	(0.019)	(0.025)	(0.037)	(0.035)	(0.026)	(0.028)
Disagreement - Day	-0.0443	0.0306	-0.0131	0.0204	-0.0471	-0.1280	0.0079	0.1283*
	(0.057)	(0.047)	(0.021)	(0.022)	(0.031)	(0.078)	(0.034)	(0.074)
Number of messages - Night	0.0003	-0.0072	0.0010	-0.0139	-0.0050	0.0114	0.0076**	-0.0078
	(0.005)	(0.028)	(0.003)	(0.023)	(0.004)	(0.035)	(0.004)	(0.020)
Number of messages - Day	0.0064	0.0106	0.0025	0.0067	0.0093	-0.0149	-0.0070	0.0184
	(0.006)	(0.009)	(0.003)	(0.006)	(0.008)	(0.013)	(0.008)	(0.012)
Turnover (t-1)	-0.0267*	-0.0786***	-0.0029	-0.0428***	0.0007	-0.0405	-0.0035	-0.0100
	(0.014)	(0.021)	(0.005)	(0.013)	(0.009)	(0.027)	(0.008)	(0.017)
Trade Dummy (t-1)	-0.2421	0.0789	-0.0565	-0.0633	-0.0108	-1.0476**	-0.0410	0.5283
	(0.196)	(0.465)	(0.137)	(0.218)	(0.269)	(0.430)	(0.200)	(0.404)
Observations	13,360	22,512	13,360	22,486	13,359	22,485	13,359	22,484
R-squared	0.879	0.778	0.892	0.741	0.516	0.361	0.422	0.207
Disagreement Night effect size	-1.062%	-0.275%	-0.737%	0.982%	-4.301%	0.397%	2.628%	0.730%
Mean	6.497	8.023	4.152	5.275	2.055	2.974	2.180	2.576
Firm FEs	X	X	X	X	X	X	X	X
Date FEs	X	X	X	X	X	X	X	X

Table A.11: Effects of Investor Disagreement on Liquidity Measures without Firm Fixed Effects

Note: In this table, we report the relationship between proxies for liquidity and disagreement among investors. For Panel A, the dependent variable is the Amihud illiquidity measure (based on Amihud 2002). For Panel B, the dependent variable is the bid-ask spread. *Disagreement* is measured from 4 p.m. on day t-1 to 4 p.m. on day *t*. *Disagreement Night* is disagreement between 4 p.m. on day *t-1* and 9 a.m. on day *t*, and *Disagreement Day* is disagreement between 9 a.m. and 4 p.m. on day *t*. For columns (1) and (2) in both panels, the sample covers 60-day periods prior to Schedule 13D filings. For columns (3) and (4) the sample covers days during 60-day periods prior to Schedule 13D filings on which some activist turnover occurs. For columns (5) and (6) the sample covers days during 60-day periods prior to Schedule 13D filings, on which no activist turnover occurs. All regressions include firm and date fixed effects. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Dependent variable – Amihud						
	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	-0.0980***		-0.0385***		-0.1247***	
	(0.017)		(0.013)		(0.023)	
Number of messages	-0.0000		0.0001		0.0013	
	(0.001)		(0.000)		(0.005)	
Disagreement - Night		-0.0392***		-0.0073*		-0.0476**
		(0.012)		(0.004)		(0.019)
Disagreement - Day		-0.0627***		-0.0339*		-0.0858***
		(0.011)		(0.019)		(0.020)
Number of messages - Night		0.0021		-0.0000		0.0083
		(0.003)		(0.000)		(0.010)
Number of messages - Day		-0.0004		0.0005		-0.0001
		(0.002)		(0.001)		(0.006)
Turnover (t-1)	-0.0330***	-0.0336***	-0.0031***	-0.0033***	-0.0849***	-0.0854***
	(0.007)	(0.007)	(0.001)	(0.001)	(0.020)	(0.021)
Activist Turnover (t-1)	-0.3075***	-0.3104***	-0.0853**	-0.0877**	0.1074	0.1086
	(0.073)	(0.073)	(0.035)	(0.041)	(0.155)	(0.156)
Observations	55,477	55,477	20,811	20,811	34,656	34,656
R-squared	0.043	0.043	0.078	0.078	0.071	0.071
Disagreement effect size	-17.008%		-23.482%		-15.137%	
Disagreement Night effect size		-6.803%		-4.453%		-5.778%
Mean	0.576	0.576	0.164	0.164	0.824	0.824
Date FEs	X	X	X	X	X	X

Panel B: Dependent variable – Bid-ask spread						
	(1)	(2)	(3)	(4)	(5)	(6)
	60-day period		Activist-Trading Days		Non Activist-Trading Days	
Disagreement	-0.1589***		-0.1181***		-0.1711***	
	(0.020)		(0.020)		(0.025)	
Number of messages	-0.0026		-0.0012		-0.0001	
	(0.002)		(0.001)		(0.005)	
Disagreement - Night		-0.0624***		-0.0531***		-0.0613***
		(0.012)		(0.014)		(0.019)
Disagreement - Day		-0.1068***		-0.0759***		-0.1067***
		(0.016)		(0.018)		(0.021)
Number of messages - Night		-0.0025		-0.0004		-0.0073
		(0.006)		(0.004)		(0.010)
Number of messages - Day		-0.0015		-0.0006		0.0020
		(0.002)		(0.002)		(0.006)
Turnover (t-1)	-0.0628***	-0.0634***	-0.0334***	-0.0338***	-0.1272***	-0.1279***
	(0.008)	(0.008)	(0.005)	(0.005)	(0.025)	(0.025)
Activist Turnover (t-1)	-0.2017*	-0.2069*	-0.0475	-0.0538	0.4191***	0.4218***
	(0.113)	(0.113)	(0.086)	(0.086)	(0.149)	(0.149)
Observations	55,916	55,916	20,840	20,840	35,066	35,066
R-squared	0.063	0.062	0.127	0.126	0.091	0.090
Disagreement effect size	-9.661%		-9.525%		-9.075%	
Disagreement Night effect size		-3.794%		-4.283%		-3.251%
Mean	1.6448	1.6448	1.2399	1.2399	1.8854	1.8854
Date FEs	X	X	X	X	X	X

Table A.12: Effects of Investor Disagreement on Activist Turnover

Note: In this table, we report the relationship between disagreement between investors and various types of trading volume. We report estimates of equation (3). The dependent variable is activist turnover. Activist turnover is measured as the number of shares traded by activist investors divided by shares outstanding. All regressions include firm and date fixed effects. The sample covers 2010-2018 and is limited to the [t-60,t-1] periods around Schedule 13D filing dates. Heteroskedasticity-robust standard errors are double-clustered at the firm and date levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable – Activist Turnover			
	(1)	(2)	(3)
Disagreement - Night	0.0848	0.1180	0.3316*
	(0.195)	(0.195)	(0.196)
Disagreement - Day	-0.1958	-0.1718	-0.0169
	(0.212)	(0.211)	(0.211)
Number of messages - Night	0.1157	0.1218*	0.1617**
	(0.072)	(0.071)	(0.069)
Number of messages - Day	-0.1871***	-0.1770***	-0.1117**
	(0.063)	(0.061)	(0.053)
Turmover	1.3666***		
	(0.085)		
Ex Activist Turnover		1.3191***	
		(0.083)	
Turnover - Activist Turnover			0.9996***
			(0.072)
Trade Dummy (t-1)	0.1667**	0.1759***	0.2354***
	(0.067)	(0.067)	(0.066)
Turnover (t-1)	0.4628***	0.4631***	0.4645***
	(0.008)	(0.008)	(0.008)
Observations	55,916	55,916	55,916
R-squared	0.422	0.416	0.418
Disagreement Night effect size	0.227%	0.317%	0.889%
Mean	37.282	37.282	37.282
Firm FEs	X	X	X
Date FEs	X	X	X