Analysts' Forecast Dispersion and Stock Split Announcements

Maria Chiara Iannino[1]

Abstract

This paper is an empirical investigation of the relation between the dispersion on analysts' earnings forecasts and the future performance following a change in the nominal price of shares. On a sample of US splits occurred from 1993 to 2013, we observe a change in the distribution of analysts' forecasts after the announcement of the event. In particular, we observe an increase in forecasts' dispersion. We distinguish the two components of private and common information, and we find that asymmetric information significantly increases after the announcement of stock splits, while no change is evinced in uncertainty. While we do not observe a significant relationship between dispersion and future returns in our sample of stocks, we shed light on the literature on disagreement observing a negative relationship between asymmetric information and both future returns and cumulative abnormal returns post-split. We conclude observing that stock splits have a strong positive effect on future performance for shares with lower prior asymmetric information.

Keywords: Disagreement, Stock Splits, Nominal Price Preferences, Information Asymmetry, Uncertainty
JEL codes: G02, G11, G14.

1. Introduction

The literature shows conflicting evidence on the relationship between dispersion on analysts' forecasts and stock returns. Researchers seem, however, to focus on the evidence of a negative relationship between forecasts' dispersion and future returns. This association have been explained either with asymmetric information or informational uncertainty. Diether et al. (2002) show that firms with high level of

[1]University of Vienna, Department of Finance, Oskar-Morgenstern-Platz 1, 1090, Vienna, Austria, email: maria.chiara.iannino@univie.ac.at, tel: +43-1-4277-38073.
I am grateful for the comments of Marcelo Fernandes, Giovanni Cespa, and all the staff at Queen Mary University of London, Michela Verardo, Ian Garrett, Andrea Colella, the colleagues at the University of Vienna and everyone who provides with comments in conferences and seminars.

January 11, 2017

dispersion tend to be overpriced, due to asymmetric information and short-sale limitations. Dispersion and contemporaneous returns are therefore positively related, but, once the overprice is corrected, high dispersion stocks will earn lower future returns. However, the same relationship is explained by Johnson (2004) assuming high dispersion is a proxy for high uncertainty, that increases the option value of the firm.

Barron et al. (2009) make an attempt to disentangle the two components of forecasts dispersion and reconcile the theories. I further contribute to the literature with a cleaner identification between information asymmetry and uncertainty. In this paper, I empirically investigate the link between dispersion of beliefs and returns looking at events in which the distribution of analysts' forecasts might change, but there is not explicit common knowledge being formed, such as the announcement of stock splits.

Stock splits are a peculiar event in the company life, in which the company actively manages its nominal share price. We can assume that this event is exogenous to the relation between dispersion and future returns. More importantly, it allows us to distinguish the role of the two theoretical components of dispersion on future returns as no information is explicitly disclosed at the announcement of the event. Therefore, besides little common information is being created, private information is still being formed and updated.[2] This identification helps us to isolate a change in information asymmetry from a change in uncertainty, and the effects on future returns. Thus, I look at the relation between dispersion in analysts' forecasts and returns at the time of the announcements of stock splits.

Moreover, I control for the role played by short-sale constraints in explaining the relation between differences in opinion and stock returns (Miller, 1977). Negative opinions can be released more easily through the options markets, thus if splitting firms have put options traded on their shares at the time of the split announcement. We should therefore observe a weaker relationship between dispersion and current returns, and between dispersion and future returns.

The empirical analysis is carried out on a sample of stock splits announced in the US exchanges from 1993 to 2013. It is structured along the following three questions: How stock split announcements affect the distribution of analyst forecasts? What is the relation between the dispersion of analysts' forecasts and returns of

[2]Barron et al., 2009 consider the case of earnings announcements, however they cannot provide a clear cut between the disclosure of public information and the evinced increase in asymmetric information following earning announcements (Frankel et al., 2006).

the splitting companies? How dispersion of beliefs preceding the announcement of the split impacts on the future abnormal performance of the splitting shares? At first, I estimate changes in analyst forecasts, both in mean and in dispersion, at the occurrence of a stock split, and investigate the relationship between forecasts dispersion and future normal and abnormal performance. I check for changes in market expectations around the announcement of a split to capture convergence or divergence of beliefs. Once I have analyzed that a change in the distribution of analysts' forecasts effectively occurs, I carry out an event study to investigate the market reaction to the event, and I analyze the impact of the dispersion of forecasts estimates on future returns of such firms.

Thus, the first step of the analysis is to look at the cross-sectional variation in the distribution of analysts' forecasts before and after the split announcements in order to highlight changes in the distribution of the analysts' forecasts, both in mean and in dispersion. This step sheds light on the link between stock splits and market expectations, and in particular on the presence of information asymmetry rather than uncertainty. The results show an increase in the coverage of forecasts, but there is not any significant impact on the consensus or on the forecasts' error. Instead, there is a strong significant increase in the dispersion of forecasts.

Following Barron et al. (1998), I distinguish overall analysts' uncertainty (squared deviations from the actual earnings per share), and information asymmetry, as the proportion of private information contained in analysts' forecasts (deviations from consensus). The results show that splitting firms exhibit a significant and strong rise in informational asymmetry following the announcement of the event, while no significant change is evinced in common uncertainty. It confirms the use of stock splits as an identification tool to distinguish the components of dispersion of beliefs. The results are particularly significant for stocks with high prior dispersion. While market capitalization affects the total dispersion measure, information asymmetry increases after a split regardless the size of the splitting company.

We then examine the relationship between dispersion and returns in a portfolio setting and in a regression analysis. I construct three portfolios according to the dispersion of analysts' forecasts estimated in the two months preceding the split announcements (prior dispersion). Thus, the average observed returns, the risk-adjusted returns and the cumulative abnormal returns are computed per each portfolio. We observe an association between high prior dispersion and high past observed returns till 12 months before the event, as well as between high prior dispersion and high contemporaneous observed returns. There is, though, not significant relationship with future returns till 12 months after the event.

I perform several robustness checks to confirm this relation. In a two-sort portfolio analysis, I control for a confounding effect of market capitalization, but the same conclusions are found across the three size portfolios. Then, 5-year subperiods are investigated separately to test for any change in the relation dispersion-returns over time. Interesting, we observe a negative relation between observed future returns and prior dispersion only in the last subperiod after the 2007-08 crisis. The same interpretations are reached looking at risk-adjusted returns, where risk is quantified with a 4-factor model (Cahart, 2007), using market, size, book-to-market and momentum factors.

Moreover, high dispersion stocks tend to be associated with higher contemporaneous returns, but this is not due to an overpricing story. In fact, we consider stocks with put options traded on the day of the announcement, but we do not find any different pattern for optionable shares versus non-optionable shares. The results are consistent with the stock splits empirical literature, suggesting that splitting companies tend to be underestimated by analysts and market before the event announcement.

Therefore, we look more carefully at the future perfomance of splitting stocks in a regression setting. The final step is to test whether the pre-event forecasts dispersion can explain the future abnormal performance recorded after a split. I first carry out an event study on the future returns of the splitting companies, estimating the Cumulative Abnormal Returns with different methodologies. The use of a market-adjusted approach seems preferable considering that split is not an exogenous event to the market, and splitting stocks have abnormal performances in the months before the announcements. Moreover, a market-adjusted approach has been shown robust in a short-window setting (Brown and Warner, 1985, Bouwman et al., 2009). Consistently with the literature, we observe a positive short-term reaction of the market to the announcements of stock splits that happens mostly in the first five days after the event.

We investigate the relationship between CARs and prior dispersion in a regression approach, where we can address the impact of the two components of asymmetric information and uncertainty, the presence of tradable put options on the company shares, and several firm and analysts' control characteristics. We observe that asymmetric information has the strongest negative effect on cumulative returns. Splitting stocks with low prior asymmetric information tend to outperform significantly stocks with high asymmetric information from 5 to 90 days after the event.

We conclude that the variation in the dispersion at the split announcement is primarily reflected in a change in asymmetric information, rather than uncertainty.

Moreover, we confirm that high level of asymmetric information leads to negative future returns.

Else than contributing to the debate on forecasts' dispersion, this paper also contributes to the literature on nominal share price preferences. In fact, we show that the dispersion of beliefs helps to gain a better understanding on the abnormal returns following stock splits. Stock splits are still a puzzling corporate event, nonetheless their "cosmetic" nature. The empirical evidence shows that companies invest resources in order to manage the nominal share price, especially at high market sentiment periods, and the market subsequently positively reacts to their announcements (Grinblatt et al., 1984, Ikenberry and Ramnath, 2002). Several theories have been developed to understand, on one side, the managers' choice to split, and the market's reaction on the other side. We do observe an increase in coverage, however this does not result in improvements of the analysts' forecasts (Brennan and Hughes, 1991). Both consensus and estimation error do not change at the split announcements. However, we observe that asymmetric information increases at the split announcement, consistently with investors updating their own private information. However, prior asymmetric information affects negatively the future performance of the event.

The layout of the paper is as follows. Section 2 reviews the literature on stock splits and on differences of opinion. Section 3 introduces the sample and the methodology, and summarizes the empirical analysis. Finally, Section 4 concludes our findings.

2. Literature

The most fascinating among the self-selected corporate events is the stock split, because of its apparent lack of any directly observable effects on companies' cash flows, ownership structure or risk characteristics. However, managers are investing resources in order to actively manage the share price, and we do observe an impact on the markets. Many motivations have been proposed by the literature, but still there is not consensus.

In the pre-split window, there is robust evidence of high rates of returns preceding the announcements, due to abnormal increases in earnings and in dividends (Lakonishok and Lev, 1987, Asquith et al., 1989). In addition, the announcement is generally preceded by high and abnormal trading volumes, especially in the few months immediately before the announcement.

Post-event evidence would suggest that the event conveys good information. In fact, splits seem to positively affect the wealth of shareholders post-event, as the mar-

kets react favourably to the announcements of the events, reporting positive excess returns in the short-term (Grinblatt et al., 1984) and in the long-term (Ikenberry and Ramnath, 2002, Desai and Jain, 1997). This is consistent with the theoretical hypothesis which posits that managers aim to convey soft private information to the market about the positive future performance of the company (Brennan and Copeland, 1988, Chemmanur et al., 2015).

However, there is evidence of a positive market reaction around the ex-dates as well (Lakonishok and Vermaelen, 1986, Lamoureux and Poon, 1987, Nayar and Rozeff, 2001). These results are more consistent with an improvement in liquidity (Angel (1997)) or marketability of the shares (Dennis, 2003). Some literature assumes the existence of a preferred trading range for nominal prices, due to market and industry social norms (Weld et al., 2009, So and Tse, 2000), or behavioural preferences (Birru and Wang, 2016). More recent approaches consider therefore the effect of signalling along with market preferences for a trading range (Iannino and Zhuk, 2016).

There is also evidence of increasing analysts' coverage after the announcement of stock splits, due to higher profits or promotional activities by market makers (Brennan and Hughes, 1991). According to such attention hypothesis, managers undertake stock splits in order to attract the attention of analysts and market makers. However, Ikenberry and Ramnath (2002) has shown that the increase in analysts' coverage after a split is not statistically higher than the rise in coverage observed for similar non-splitting firms.

In this paper, I consider the role of analysts' forecasts in the creation of market expectations at the announcement of stock splits. We, therefore, briefly look at the literature on differences of opinion.

A first branch in the literature introduces heterogeneous beliefs, but maintaining the equilibrium of the Efficient Market Hypothesis. Diamond and Verrecchia (1987) and Hong and Stein (2003) suggest that also in markets where disagreement exists, there are mechanisms or perfectly rational agents that can maintain the prices at their efficient levels. In fact, rational investors take already into account the constraints to negative opinions to be revealed.

A second approach evinces a positive relation between dispersion and future long-term returns (Varian, 1985, Merton, 1987) when the differences of opinion are interpreted by the investors in the market as a component of risk. Higher disagreement needs to be compensated with higher future returns, so the asset prices are likely to be downward mispriced today for a higher returns in the long run. This model works assuming no constraints to short selling.

Finally, researchers' consensus seems to gather lately on a third approach, theoretically developed by Miller (1977) and then empirically tested by Diether et al. (2002), Liu et al. (2004). The dispersion of beliefs is seen as a proxy for disagreement among investors. It leads to current positive overpricing if short-sale limitations prevent pessimistic opinions to be revealed. Diether et al. (2002) provide evidence of a positive relation between dispersion of beliefs and contemporaneous returns, and of a negative relation between dispersion and future returns once the mispricing is corrected. The same positive relation can be motivated by dispersion of analysts' forecast as a proxy for uncertainty that increases the option value of the firm (Johnson, 2004).

To conclude, few studies apply the literature on differences of opinion to corporate events. Diether (2004) analyses the underperformance in the long run of a sample of SEOs, motivating it with short sale constraints and differences of opinion. Then, Loughran and Ritter (2000) analyse the dispersion of beliefs around extreme events in the three years after new equity issuances. They find that these extreme events are accompanied by a great divergence of opinion among investors, proxied by the share turnover. Assuming Miller's hypothesis, this leads to a poor future performance given evidence of short-sale constraints in IPOs or SEOs. Finally, Barron et al. (2009) try to disentangle the effect of information asymmetry and uncertainty from the dispersion of beliefs, proposing to estimate errors in private or common information around earnings announcement.

3. Data and Methodology

The sample consists of stock splits announced by firms listed on NYSE, AMEX, and NASDAQ for the period 1993 to 2013. CRSP provides daily prices, returns and firm characteristics for the company shares, as well as event information, such as announcement dates, ex-dates and adjustment factors. I only keep nonreverse stock splits, whose announcement dates are provided by CRSP, disregarding the cases in which other distribution events have been announced on the same day. With these selections, I clean for consolidating splits, stock dividends, and the frequent cases in which splits are announced contemporaneously as dividend distributions (Fama et al., 1969) (about 25% of the sample).

Information on analysts' forecasts is obtained from the I/B/E/S Detail History file. We consider forecasts for the current fiscal year earnings per share. By merging CRSP and I/B/E/S datasets, we further restrict our sample to companies that are covered by at least two analysts in the two months before and in the two months

after the stock split announcements.[3] In addition, the splitting companies need to have at least twelve months of observations after the announcement dates in order to consider future performance, and at least 120 days before the announcement date as estimation windows.

Moreover, I check if put options are available for the splitting companies, merging the OptionMetrix volume database. In the final sample, abput 35% of companies have traded put options on the day of the split announcement.

Table 1 presents the annual frequency of split events in our sample. It consists of 1873 events, announced by 1303 companies, with a median number of splits per company of 2.[4]

The splits occurred in the period from 1993 to 2013 with a peak in 2000 and a following decreasing trend over the subsequent years. This is consistent with Lakonishok and Lev (1987), as splits tend to occur most frequently when the markets are in expansion phases.

The split-factor is the number of additional shares issued per one old share. The great majority of splits occur at the round numbers of 0.5, 1, 2, and the 2-to-1 splits account for more than half of the sample. We do not find evidence for a tick size motivation in this preference (Angel, 1997), as neither the number of splits nor the preference for round split-factors change significantly after the 1997 change in the rules of decimalization in the US exchange.

3.1. The methodology

The empirical analysis is structured along the following three questions: How stock split announcements affect the distribution of analyst forecasts? What is the relation between the dispersion of analysts' forecasts and returns of the splitting companies? How dispersion of beliefs preceding the announcement of the split impacts on the future abnormal performance of the splitting shares? At first, I estimate changes in analyst forecasts, both in mean and in dispersion, at the occurrence of a stock split, and investigate the relationship between forecasts dispersion and future normal and abnormal performance. I check for changes in market expectations around the announcement of a split to capture convergence or divergence of beliefs. Once I

[3]We also perform the analysis restricting the pre- and post-event windows to 1 month respectively.

[4]The number of splits per share is, however, even higher, if I consider the complete sample of events, before the cleaning for other distributions. Indeed, some companies choose to split their stocks regularly and often these events are declared concurrently with dividend distributions.

evinced that a change in the distribution of analyst's forecasts effectively occurs, I carry out an event study to investigate the market reaction to the announcement of the event, and I analyze the impact of the dispersion of forecasts estimates on future returns of the splitting companies.

First, I test the changes in investors' expectations at the announcement of stock splits. How stock split announcements affect the distribution of analyst forecasts? Dispersion of forecasts is measured as the coefficient of variation of analysts' forecasts of EPS for the current fiscal year, defined as the standard deviation of forecasts scaled by the absolute value of the mean of the consensus (Diether et al., 2002, Verardo, 2009). We discard observations with zero mean forecasts and only consider events-windows with at least two analysts covering the company.

I consider the new estimates by any analyst in a window of two months before the announcement date of the split and, analogously, the estimates by each analyst in the two months after the event.[5] Moreover, I use different measures of dispersion, such as interquartile range scaled by the absolute consensus (Verardo, 2009), or the standard error over the absolute consensus. These corrections will prevent the simultaneous increase in coverage from affecting the change in dispersion. The window length is chosen primarily to facilitate a suitable size of the sample. As a robustness check, I also use a window of 30 days before (after) the announcement. If an analyst has published more than one forecast in each period, only the closest to the event date is considered in each window.

Moreover, I disentangle dispersion of analysts' forecasts from informational uncertainty and asymmetric information considering:the average forecast error of all analysts covering the splitting stocks, as proxy for the uncertainty around the true value the company; the lack of consensus, as proxy for information asymmetry (Barron et al., 2009).

In 2-month windows before and after the event, I estimate the following:

$$V = \frac{\sum_{i=1}^{N}(FC_i - EPS)^2}{N} = (1 - \frac{1}{N})D + SE, \text{ (uncertainty)} \tag{1}$$

$$IA = 1 - \frac{SE - \frac{D}{N}}{V}, \text{ (information asymmetry)} \tag{2}$$

[5]As a robustness check for the measure of dispersion prior to the event, I will also consider the outstanding forecasts, such as a forecast that is still valid before the announcement of the split (Diether et al., 2002)

where:

$$D = V * IA = \frac{\sum_{i=1}^{N}(FC_i - \overline{FC})^2}{N-1} \text{ (dispersion of forecasts)} \quad (3)$$

$$SE = (EPS - \overline{FC})^2 \text{ (squared error in the mean forecasts)} \quad (4)$$

What is the relation between the dispersion of analysts' forecasts and returns of the splitting companies? We reduce the variability of an analysis on the whole sample with portfolio sorting, based on Jegadeesh and Titman (1993). I construct three portfolios of companies with low, medium or high intensity of dispersion, considering the dispersion estimated prior to the event (prior dispersion).[6] We assign the stocks to the corresponding portfolio and calculate the average future returns for each, both looking at the observed returns R_{it}, or estimating risk-adjusted returns, $r_{adj_{it}}$, from a 4-factors model (Carhart, 1997).

I also consider any endogenous influence of size on this relation, introducing an independent double-sorting with prior dispersion and size. Size has been used in literature as both a proxy for information uncertainty (Zhang, 2006) and short-sell constraints (Diether et al., 2002). In this two-way cut, the mean returns are calculated for portfolios derived from the intersection of dispersion groups and size groups.

This step will bring light on the existing relation between dispersion of analyst forecasts and portfolio returns before the announcement of the splits. An association between returns and dispersion will be broadly verified if we can observe a systematic variation in the average returns moving from the smallest to the highest group of dispersion.

Finally, how dispersion of beliefs before the announcement of the split impacts on the future abnormal performance of the splitting shares? We test the effect of dispersion in analysts' forecasts in a multivariate setting, looking at the cross-section abnormal returns of splitting stocks after the announcements of the events. We perform the analysis following first the standard event study methodology (Brown and Warner, 1985). We also perform, as robustness, a panel regression with time dummies as days to the announcement of the event (Fernandes and Mergulhão, 2016) to address issues of the independence of the abnormal returns.

[6]Similar analysis is performed for the post dispersion and the change in dispersion at the announcement of the event.

In the standard approach, I choose an estimation window from $t_1 = -120$ to $t_2 = -20$ days before the announcement of the split. The left extreme has been chosen in order to sufficiently avoid any overlap between previous stock splits undertaken by the same company and any contamination of altered performances. The right extreme derives instead from previous empirical findings that revealed an abnormal trading activity in the 10 days prior to the event announcement (Maloney and Mulherin, 1992, Easley et al., 2001). Using daily data from the CRSP database, I estimate the parameters of a normal return model using the four-factor model as Carhart (1997):

$$R_{it} = \alpha_i + \beta_{1,i} F_{mkret,t} + \beta_{2,i} F_{btm,t} + \beta_{3,i} F_{size} + \beta_{4,i} F_{mom,t} + \varepsilon_{it} \tag{5}$$

where R_{it} is the continuously compounded excess return of the splitting company i from day $t-1$ to day t of the estimation window. I use returns from mid prices between bid and ask in order to eliminate the impact of any bid-ask bounce. $\beta_{1,i}$, $\beta_{2,i}$, $\beta_{3,i}$ and $\beta_{4,i}$ are the risk sensitivities of the four explanatory factors, for company i, ε_{it} is the disturbance terms or the abnormal returns. $F_{mkret,t}$, $F_{size,t}$, $F_{btm,t}$, and $F_{mom,t}$ are the four explanatory variables corresponding to the excess returns on portfolios constructed to mimic the implicit risks respectively in market return, size, book-to-market and momentum for the period t.

I also estimate AR from a market-adjusted return model:

$$R_{it} = F_{mkret,t} + \varepsilon_{it} \tag{6}$$

The choice of using a market-adjusted return model comes from the observation and the evidence that stock splits exhibit strong price run-up in the months preceding the announcement (Lakonishok and Lev, 1987). As the event is not exogenous to the market, the estimation of the factor loadings in a period of strong price run-up can inflate the normal returns.

Then, the event window goes from $\tau_1 = -1$ to $\tau_2 = +90$ days around the announcement (or ex) dates. The abnormal returns are estimated as the difference between the observed returns over the event window and the normal returns that would exist in the absence of any event:

$$AR_{i\tau} = R_{i\tau} - E[R_{i\tau}|F_\tau] = e_{i\tau} \tag{7}$$

where τ corresponds to the days around the announcement of the event; $R_{i\tau}$ are the returns for company/event i at day τ; and F_τ is the matrix of the four factors observed in this event window.

We then aggregate CARs for the three groups of prior dispersion, as measure in the two months before the announcement of the split.

Next to a portfolio analysis, I use a regression approach to investigate more in details whether the change in dispersion after the announcement of stock splits affects the future returns of the companies. We regress the future returns on prior dispersion ratio, and prior dispersion interacted with a dummy for traded options, or uncertainty V, or Asymmetric Information IA.

To take into account other important determinants that can affect the abnormal returns, I control for firm characteristics and analysts' characteristics at the end of the month preceding the split announcements. Firm characteristics are: past 6-month cumulative returns from t-1 to t-7, market capitalization, book-to-market (past 37-month returns - past 1-month return), momentum strength (past 6-month log returns in excess to the median return of all stocks, as Bandarchuk and Hilscher, 2013), Amihud illiquidity measure (absolute value of the daily stock return divided by the scaled total daily dollar volume, as Amihud, 2002), squared returns, turnover in excess of the exchange average turnover (with modifications for NASDAQ stocks, as Anderson and Dyl, 2005). Analysts' variables are: previous month uncertainty V, asymmetric information IA, squared forecasts error, standard error of analysts' forecast errors, standard deviation of analysts' forecasts. I also include the aggregate market factors, size, book-to-market, and momentum.

The following cross-section regressions are estimated for the observed returns or the cumulative abnormal returns from 1 month to 12 months after the split announcement:

$$\begin{aligned} CAR_i^{(0,\tau)} &= \alpha_i + \beta_1 PriorDisp_i + \beta_2 PriorDisp_i^2 \\ &+ \beta_3 PriorDisp_i * Option_i + \beta_4 PriorDisp_i * IA_i + \beta_5 PriorDisp_i * V_i \\ &+ \sum_k \gamma_k X_{kt-1} + \varepsilon_{i\tau} \end{aligned} \tag{8}$$

where: $CAR_i^{(0,\tau)}$ is the cumulative abnormal return for split i from the day 0 of the announcement until day τ after the event announcement; $PriorDisp_i$ is the dispersion of beliefs, measured in the two months before the event; and

$$\begin{aligned} R_i^{(0,m)} &= \alpha_i + \beta_1 PriorDisp_i + \beta_2 PriorDisp_i^2 \\ &+ \beta_3 PriorDisp_i * Option_i + \beta_4 PriorDisp_i * IA_i + \beta_5 PriorDisp_i * V_i \\ &+ \sum_k \gamma_k X_k + \gamma R_m + \varepsilon_{i\tau} \end{aligned} \tag{9}$$

where $R_i^{(0,m)}$ is the compounded return for the company n from the month 0 of the announcement until month m after the split i.

We address non-linearities in the relation between dispersion and returns, estimating either a polynomial model with the squared prior dispersion, or quantile regressions at the .25, .50 and .75 quantiles.

4. Results

The first step of the empirical analysis is to investigate any change in the distribution of analysts' forecasts around the announcement of stock splits. We examine changes in the analysts' coverage before and after the announcement of the split, based on the number of analysts that provided one year earnings estimates for each split-firm (Table 2).

Brennan and Hughes (1991) suggest that managers actively manage the nominal prices in order to attract the attention (usually positive) of analysts. Looking at the analysts' coverage, the evidence shows a significant average increase in the number of analysts following the firms after the announcement of the splits, from 8.7 to 9.82. However, there are not significant changes in the mean of the forecasts. The estimation error is measured as the difference between the forecasted earnings and the actual values. It shows that analysts tend to underestimate companies' earnings in the window before the event. However, its decrease after the split is not statistically significant, contradicting the above attention hypothesis (Ikenberry and Ramnath (2002)).

A strong result concerns the variation of forecasts. The dispersion ratios, measured by the standard deviation of the estimates or by the standard error, scaled by the absolute value of the consensus, are both significantly increasing in the post-event window. Disentangling dispersion into common uncertainty V and information asymmetry IA, we confirm our initial assumption that stock splits see a considerable increase in information asymmetry around the company future earnings, but not significant change in the overall common uncertainty.[7]

Table 3 reports the changes in forecasts by groups of dispersion. We distinguish three equal-size groups of low, medium and high dispersion before the event. We

[7]In the following, I will only report results based on the dispersion ratio constructed by the standard deviation, for consistency with previous literature. However, I perform the choice does not affect the results.

notice a decreasing relation between dispersion and average estimate, both before and after the splits, as higher dispersions are associated with lower average estimates. Considering the average error of underestimation, it tends to be higher in the medium groups of dispersion as common uncertainty is higher. Looking at changes around the split announcement, we observe that the increase in dispersion is mostly in groups that already had high prior dispersion, and also information asymmetry is significantly larger in high dispersion groups as well.

I also control for size for possible confounding effects. Table 4 reports the statistics and the changes between pre- and post-event window, for three equal-size groups of market capitalization at the time of the split. Results are consistent with the literature, that small companies tend to be less covered by analysts, more underestimated and more subject to asymmetric information. Moreover, splits seem to be associated with an improvement in coverage, as well as an increase in dispersion for such small companies. However, information asymmetry increases after the event in both groups of small and large companies.

Confirming that stock splits do not affect the uncertainty of common knowledge, but do increase asymmetric information, we can focus on the relationship between dispersion and returns. In order to analyze the relation between dispersion and returns, I firstly divide the sample into subgroups to reduce the variability of the previous phase (Jegadeesh and Titman, 1993, Diether et al., 2002). I construct three equal-size portfolios on the basis of the degree of prior dispersion. The stocks are assigned to the corresponding portfolio based on their level of forecasts dispersion in the two months before the split announcement, and average returns are compounded from 12 months before the event to 12 months after the event for each portfolio. Table 5 reports the average returns of the three portfolios of high, medium and low prior dispersion. We observe how high dispersion is positively associated with high past and contemporaneous returns, consistently with Diether et al. (2002). However, we do not observe any significant relation with future observed returns, from 1 to 12 months after the announcement of the event.

We further analyze this relation introducing a second variable to check if there is an endogenous effect related to size. In a two-way cut, the average returns are calculated for each portfolio deriving from the independent intersection of dispersion quartiles and size quartiles (Table 6). As expected, the higher the capitalization of the company, the lower the future positive returns. There is a decline in the difference between future returns of lower and higher dispersion quartiles as size increases. However, the differences in mean return between high and low dispersion groups are

still not significant.

Table 7 reports the same analysis in sub-periods of 5 years. We confirm the previous conclusions on the relation between dispersion and contemporaneous and future returns, with the exception of the last period from the 2007-08 crisis. In this period, there is a significant negative association between high dispersion and future returns from 6 to 12 months. In this sub-period our sample of splits is behaving consistently with the previous literature on dispersion of analysts' forecasts on the overall population of US companies.

Moreover, we control for the possibility of short-sell constraints looking at splitting stocks that have a non-zero volume of put options on the day of the split announcement. As Table 8 shows, there is not change in the previous conclusions.

The next step controls for changes in risk factors. We look at the average risk-adjusted returns in the three portofolios of prior dispersion and we confirm the previous findings of not significant pattern between future returns and dispersion (Table 9).

More interesting results come from the multivariate analysis. We regress the future observe returns, from 1 month to 12 months on the dispersion measures, controlling for firm and analysts' characteristics and distinguishing between information asymmetry and uncertainty (Table 10). We observe now that the relationship between returns of splitting companies and dispersion comes mainly from the asymmetric information component. In fact, if the dispersion ratio is not significant explanatory variables, the IA measures strongly affect negatively the future returns. Higher asymmetry will lead to lower future returns, consistently with the Ikenberry and Ramnath (2002)'s hypothesis.

The results from the previous analysis motivate the next step. I estimate the abnormal returns after the announcement of the splits, and test the impact of prior dispersion in such abnormal performance post-event. Figures 1-3 report the CARs and ARs distinguishing three groups of dispersion, uncertainty or information asymmetry. The striking result come from Fig. 1. We observe a significant increase in the cumulative performance of splitting companies when information asymmetry prior to the event was lower. Results are not so clear for either uncertainty and the overall dispersion measure.

In order to better discern and conclude on this relation, I carry out cross-sectional regressions, in which the CARs at 5, 30, 60 and 90 days are regressed on alternatively prior dispersion or uncertaintly and information asymmetry (Table 11). We observe a significant negative relation between prior asymmetric information and future abnormal returns. Stock with lower asymmetric information before the event, tend to benefit much more from the split announcement than stock with high prior asymmetry. We use several control variables to rule out the effect of, for example, size and book-to-market. They are important determinants of the future abnormal performance, but they do not eliminate the explanatory power of prior asymmetry. Even introducing an interacted dummy variable for optionable stock, as Table 12, the strong negative effect of informational asymmetry is still present. However, the presence of put options on the stock has a negative effect on the slope of dispersion and future performance.

5. Conclusions

This paper is an analysis of the relation between the dispersion of beliefs among analysts at the time of a stock split and the market reaction and future performance of the company.

Firstly, I have investigated any changes in the dispersion of beliefs among analysts for the sample of firms that have split their stocks from 1993 to 2013. We have seen evidence of significant changes in the dispersion of the analysts' forecasts. In particular, the announcement of a split is associated with an increase in asymmetric information, as error in private information. We do not observe change in common uncertainty. In fact, splitting stocks might tend to be underestimated by analysts' in the pre-event window, but the error is not corrected after the event.

Then, I have analyzed the relation between dispersion and returns and found a positive association between the dispersion ratio and the average of the compounded returns in the twelve months preceding the event, but not relation with future returns.

Finally, looking at the impact of dispersion and its components on the future abnormal performance of splitting companies, we observe that prior information asymmetry is a strong determinant of the CARs till 90 days after the event. Companies with higher asymmetric information before the announcement of the event benefit less from a positive market reaction from the split announcement.

6. References

Amihud, Y., 2002. Illiquidity and stock returns: cross-section and time-serieseffects. Journal of Financial Markets 3156 5, 31–56.

Anderson, A.M., Dyl, E.A., 2005. Market structure and trading volume. The Journal of Financial Research XXVIII, 115–131.

Angel, J.J., 1997. Tick Size, Share Prices, and Stock Splits. The Journal of Finance 52, 655–681.

Asquith, P., Healy, P., Palepu, K., 1989. Earnings and Stock Splits. The accounting Review 64, 387–403.

Bandarchuk, P., Hilscher, J., 2013. Sources of momentum profits: Evidence on the irrelevance of characteristics. Review of Finance 17, 809–845.

Barron, O.E., Kim, O., Lim, S.C., Stevens, D.E., 1998. Using Analysts' Forecasts to Measure Properties of Analysts' Information Environment. The Accounting Review 73, 421–433.

Barron, O.E., Stanford, M.H., Yu, Y., 2009. Further Evidence on the Relation between Analysts' Forecast Dispersion and Stock Returns. Contemporary Accounting Research 26, 329–357.

Birru, J., Wang, B., 2016. Nominal price illusion. Journal of Financial Economics 119, 578–598.

Bouwman, C.H.S., Fuller, K., Nain, A.S., 2009. Market valuation and acquisition quality: Empirical evidence. Review of Financial Studies 22, 633–679.

Brennan, M.J., Copeland, T.E., 1988. Stock Splits, Stock Prices, and Transaction Costs. Journal Of Financial Economics 22, 83–101.

Brennan, M.J., Hughes, P.J., 1991. Stock Prices and the Supply of Information. The Journal of Finance 46, 1665–1691.

Brown, S.J., Warner, J.B., 1985. Using daily stock returns. The case of Event Studies. Journal of Financial Economics 14, 3–31.

Carhart, M.M., 1997. On Persistence in Mutual Fund Performance. The Journal of Finance 52, 57–82.

Chemmanur, T.J., Hu, G., Huang, J., 2015. Institutional Investors and the Information Production Theory of Stock Splits. Journal of Financial and Quantitative Analysis 50, 413–445.

Dennis, P., 2003. Stock Splits and Liquidity: The Case of the Nasdaq-100 Index Tracking Stock. The Financial Review 38, 415–433.

Desai, H., Jain, P.C., 1997. Long-Run Common Stock Returns Following Stock Splits and Reverse Splits. The Journal of Business 70, 409–433.

Diamond, D.W., Verrecchia, R.E., 1987. Constraints on short-selling and asset price adjustment to private information. Journal of Financial Economics 18, 277–311.

Diether, K.B., 2004. Long-Run Event Performance and Opinion Divergence. Working Paper , 1–48.

Diether, K.B., Malloy, C.J., Scherbina, A., 2002. Differences of Opinion and the Cross Section of Stock Returns. The Journal of Finance 57, 2113–2141.

Easley, D., O'Hara, M., Saar, G., 2001. How Stock Splits Affect Trading: A Microstructure Approach. The Journal of Financial and Quantitative Analysis 36, 25–51.

Fama, E.F., Fisher, L., Jensen, M.C., Roll, R., 1969. The Adjustment of Stock Prices to New Information. International Economic Review 10, 1–21.

Fernandes, M., Mergulhão, J., 2016. Anticipatory effects in the FTSE 100 index revisions. Journal of Empirical Finance 37, 79–90.

Frankel, R., Kothari, S.P., Weber, J., 2006. Determinants of the informativeness of analyst research. Journal of Accounting and Economics 41, 29–54.

Grinblatt, M.S., Masulis, R.W., Titman, S., 1984. The valuation effects of stock splits and stock dividends. Journal of Financial Economics 13, 461–490.

Hong, H., Stein, J.C., 2003. Differences of Opinion, Short-Sales Constraints, and Market Crashes. Review of Financial Studies 16, 487–525.

Iannino, M.C., Zhuk, S., 2016. Signaling through Timing of Stock Splits. Working Paper , 1–47.

Ikenberry, D.L., Ramnath, S., 2002. Underreaction to Self-Selected News Events: The Case of Stock Splits. Review of Financial Studies 15, 489–526.

Jegadeesh, N., Titman, S., 1993. Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. The Journal of Finance XLVIII, 65–91.

Johnson, T.C., 2004. Forecast Dispersion and the Cross Section of Expected Returns. The Journal of Finance LIX, 1957–1978.

Lakonishok, J., Lev, B., 1987. Stock Splits and Stock Dividends: Why, Who, and When. The Journal of Finance 42, 913–932.

Lakonishok, J., Vermaelen, T., 1986. Tax-induced trading around ex-dividend. Journal of Financial Economics 16, 287–319.

Lamoureux, C.G., Poon, P., 1987. The Market Reaction to Stock Splits. The Journal of Finance 42, 1347.

Liu, M., Xu, D., Yao, T., 2004. Why Does Analysts ' Forecast Dispersion Predict Stock Returns? A Corporate Guidance Perspective. Working paper , 1–58.

Loughran, T., Ritter, J.R., 2000. Uniformly Least Powerful Tests of Market Efficiency. Journal of Financial Economics 55, 361–389.

Maloney, M.T., Mulherin, H.J., 1992. The effects of Splitting on the Ex: a Microstructure reconciliation. Financial Management 21, 44–59.

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

Miller, E.M., 1977. Risk, Uncertainty, and Divergence of Opinion. The Journal of Finance 32, 1151–1168.

Nayar, N., Rozeff, M.S., 2001. Record Date, When-Issued, and Ex-Date Effects in Stock Splits. The Journal of Financial and Quantitative Analysis 36, 119.

So, R.W., Tse, Y., 2000. Rationality of Stock Splits: The Target-Price Habit Hypothesis. Review of Quantitative Finance and Accounting 14, 67–84.

Varian, H.R., 1985. Divergence of Opinion in Complete Markets: A Note. The Journal of Finance 40, 309.

Verardo, M., 2009. Heterogeneous Beliefs and Momentum Profits. Journal of Financial and Quantitative Analysis 44, 795.

Weld, W.C., Michaely, R., Thaler, R.H., Benartzi, S., 2009. The Nominal Share Price Puzzle. Journal of Economic Perspectives 23, 121–142.

Zhang, X.F., 2006. Information Uncertainty and Stock Returns. the Journal of Finance 61, 105–137.

7. Tables and Figures

Table 1: Number of stock splits per year of announcement and split-factor

Year	Number of splits	< 3-to-2	3-to-2	< 2-to-1 and > 3-to-2	2-to-1	> 2-to-1
1992	101	5.9%	35.6%	0.0%	54.5%	4.0%
1993	114	4.4%	44.7%	0.0%	48.2%	2.6%
1994	99	11.1%	34.3%	0.0%	49.5%	5.1%
1995	144	2.1%	38.9%	0.0%	56.3%	2.8%
1996	170	4.1%	40.6%	0.0%	51.2%	4.1%
1997	134	3.7%	35.1%	0.7%	56.0%	4.5%
1998	140	5.0%	32.9%	0.7%	57.9%	3.6%
1999	161	2.5%	23.0%	0.0%	71.4%	3.1%
2000	169	0.6%	20.7%	0.0%	72.8%	5.9%
2001	65	7.7%	49.2%	0.0%	41.5%	1.5%
2002	70	8.6%	34.3%	1.4%	52.9%	2.9%
2003	66	6.1%	42.4%	0.0%	47.0%	4.5%
2004	96	4.2%	34.4%	0.0%	57.3%	4.2%
2005	95	5.3%	26.3%	0.0%	67.4%	1.1%
2006	65	4.6%	26.2%	0.0%	56.9%	12.3%
2007	52	1.9%	17.3%	0.0%	76.9%	3.8%
2008	17	17.6%	0.0%	0.0%	64.7%	17.6%
2009	11	27.3%	9.1%	0.0%	54.5%	9.1%
2010	29	6.9%	31.0%	3.4%	44.8%	13.8%
2011	31	3.2%	16.1%	0.0%	71.0%	9.7%
2012	24	4.2%	16.7%	0.0%	75.0%	4.2%
2013	20	15.0%	15.0%	0.0%	55.0%	15.0%
Total	1,873	90	601	4	1,093	85

[a] This table reports frequencies of the splits by year of announcement and split-factor. The split-factor represents the number of new shares to old shares, new:old: $facpr = \frac{s(t)-s(t-1)}{s(t-1)}$, where s(t) is the number of shares outstanding, t is the distribution date (ex date) for the split.

Table 2: Descriptive statistics of analysts' coverage

	Pre-event window		Post-event window		Difference	
	mean	t-stat	mean	t-stat.	mean	t-stat
Coverage	8.713	(46.40)	9.820	(46.71)	1.107***	(3.93)
Consensus	1.161	(5.22)	1.129	(3.54)	-0.0322	(-0.08)
St.Dev.	0.112	(4.59)	0.144	(4.11)	0.0315	(0.74)
IQR	0.155	(4.05)	0.156	(4.60)	0.00108	(0.02)
mean error	-0.206	-(1.77)	-0.130	-(1.45)	0.0763	(0.52)
mean error%	-0.038	-(0.97)	-0.016	-(0.47)	0.0212	(0.41)
disp_SD	0.066	(15.50)	0.092	(8.39)	0.0256**	(2.18)
disp_IQR	0.082	(16.17)	0.107	(7.64)	0.0241	(1.63)
disp_SE	0.027	(15.39)	0.036	(7.56)	0.00848*	(1.68)
V	26.025	(1.22)	17.092	(1.26)	-8.933	(-0.35)
IA	0.312	(33.80)	0.350	(37.84)	0.0377**	(2.89)
SE	25.202	(1.18)	14.986	(1.15)	-10.19	(-0.41)

[c] This table presents descriptives of the analysts' coverage around the announcement date of the event. The statistics are estimated in the two months preceding (pre-event window) and in the two months following the split (post-event window), and differences in mean between pre- and post-windows are reported. It reports the number of analysts that publish new earnings forecasts (coverage); mean (consensus), standard deviation, interquantile range of the forecasts, mean error (forecast - actual EPS); three dispersion ratios, such as (i) standard deviation scaled by consensus (disp_SD), (ii) standard error scaled by consensus (disp_SE), and (iii) interquantile range scalded by consensus (disp_IQR); uncertainty measure (V), asymmetric information measure (IA) and squared error (SE) as Equations 1, 2 and 4. T-statistic are reported in parenthesis. * 10%, ** 5%, *** 1% significance level.

Table 3: Analysts' forecasts by dispersion groups

		Coverage	Consensus	St.Deviation	IQR range	Mean Error	Mean Error%	Dispersion	SE	V	IA
Pre-event	High dispersion	10.29	0.54	0.28	0.38	-0.20	-0.08	0.16	11.735	13.906	0.433
		(26.45)	(0.97)	(3.85)	(3.39)	-(1.48)	-(0.73)	(13.60)	(1.79)	(1.85)	(25.24)
	Medium	9.04	1.55	0.05	0.07	-0.38	-0.04	0.03	63.535	63.833	0.271
		(29.37)	(4.53)	(3.59)	(3.34)	-(1.18)	-(3.71)	(97.60)	(1.00)	(1.00)	(18.98)
	Low	6.81	1.39	0.01	0.02	-0.04	0.01	0.01	0.376	0.378	0.232
		(27.52)	(11.49)	(11.43)	(10.07)	-(1.61)	(0.41)	(51.67)	(1.44)	(1.44)	(15.20)
Post-event	High dispersion	11.77	0.40	0.37	0.39	-0.26	-0.06	0.24	41.607	47.870	0.498
		(28.79)	(0.43)	(3.57)	(3.88)	-(1.02)	-(0.59)	(7.41)	(1.07)	(1.17)	(30.12)
	Medium	10.40	1.58	0.05	0.06	-0.10	0.01	0.03	3.262	3.276	0.307
		(27.55)	(6.28)	(6.80)	(5.40)	-(1.34)	(0.55)	(87.27)	(1.04)	(1.05)	(20.36)
	Low	7.30	1.41	0.01	0.02	-0.03	0.00	0.01	0.257	0.257	0.245
		(27.20)	(11.71)	(12.95)	(11.35)	-(1.49)	-(0.09)	(49.45)	(1.90)	(1.91)	(16.77)
Difference	High dispersion	1.476**	-0.143	0.096	0.0078	-0.0597	0.0233	0.0754*	29.870	33.960	0.0650**
P		(2.62)	(0.13)	(0.76)	(0.05)	(0.20)	(0.15)	(2.21)	(0.76)	(0.82)	(2.73)
	Medium	1.350**	0.0246	-0.000798	-0.00401	0.279	0.0518*	0.00138**	-60.270	-60.560	0.036
		(2.77)	(0.06)	(-0.05)	(-0.17)	(0.85)	(2.24)	(3.19)	(-0.95)	(-0.95)	(1.73)
	Low	0.495	0.0213	-0.000766	-0.000556	0.00928	-0.0117	-0.000106	-0.119	-0.121	0.013
		(1.36)	(0.12)	(-0.51)	(-0.25)	(0.29)	(-0.41)	(-0.41)	(-0.40)	(-0.41)	(0.60)

[e] This table presents descriptives of the analysts' coverage around the announcement date of the event, by dispersion groups. The statistics are estimated in the two months preceding (pre-event window) and in the two months following the split (post-event window), and differences in mean between pre- and post-windows are reported. It reports the number of analysts that publish new earnings forecasts (coverage); mean (consensus), standard deviation, interquantile range of the forecasts, mean error (forecast - actual EPS); three dispersion ratios, such as (i) standard deviation scaled by consensus (disp_SD), (ii) standard error scaled by consensus (disp_SE), and (iii) interquantile range scalded by consensus (disp_IQR); uncertainty measure (V), asymmetric information measure (IA) and squared error (SE) as Equations 1, 2 and 4. The dispersion groups are equal-size portfolio based on the disp_SD ratio. T-statistic are reported in parenthesis. * 10%, ** 5%, *** 1% significance level.

Table 4: Analysts' coverage by size groups

		Coverage	Consensus	St.Deviation	IQR range	Mean Error	Mean Error%	Dispersion	V	IA	SE
Pre-event	Small firms	7.39	0.80	0.28	0.39	-0.51	-0.07	0.16	0.077	0.232	0.076
		(25.83)	(1.24)	(3.87)	(3.45)	-(1.48)	-(0.64)	(13.26)	(2.94)	(16.03)	(2.91)
	Medium	8.88	1.27	0.04	0.05	-0.07	-0.03	0.03	0.415	0.271	0.401
		(26.00)	(9.78)	(8.37)	(6.88)	-(2.78)	-(2.03)	(51.44)	(1.58)	(18.98)	(1.53)
	Large	9.86	1.41	0.02	0.02	-0.03	-0.01	0.01	77.502	0.434	75.294
		(29.09)	(12.53)	(12.65)	(11.01)	-(3.17)	-(0.44)	(39.33)	(1.21)	(24.31)	(1.18)
Post-event	Small firms	8.56	0.42	0.37	0.38	-0.26	-0.07	0.23	0.191	0.237	0.189
		(29.38)	(0.46)	(3.53)	(3.83)	-(1.01)	-(0.66)	(7.30)	(1.86)	(17.00)	(1.85)
	Medium	10.12	1.53	0.05	0.07	-0.12	0.00	0.03	3.325	0.313	3.299
		(27.53)	(6.05)	(6.90)	(5.60)	-(1.64)	-(0.09)	(49.98)	(1.06)	(20.77)	(1.06)
	Large	10.78	1.43	0.02	0.02	-0.01	0.02	0.01	47.883	0.500	41.574
		(25.82)	(12.47)	(12.30)	(12.01)	-(0.48)	(0.99)	(37.53)	(1.17)	(29.37)	(1.07)
Difference	Small firms	2.218***	0.548	-0.0438	-0.111	0.0293	-0.013	0.0407*	-25.55	0.0472**	-26.97
		(3.62)	(1.03)	(-0.59)	(-1.01)	(0.26)	(-0.10)	(1.86)	(-0.34)	(2.05)	(-0.36)
	Medium	0.786*	0.255	0.0631	0.0605	0.129	-0.0148	0.0168	-4.287	0.0248	-3.421
		(2.01)	(0.47)	(1.11)	(0.99)	-(0.32)	(-0.32)	(0.96)	(-0.90)	(1.08)	(-0.88)
	Large	0.318	-0.898	0.0749	0.0537	0.0704	0.0913	0.0192	3.049	0.0411*	-0.498
		(1.58)	(-1.02)	(0.87)	(0.62)	(0.59)	(1.19)	(0.90)	(0.66)	(1.90)	(-0.30)

[e] This table reports descriptives of the analysts' coverage around the announcement date of the event, by size groups. The statistics are estimated in the two months preceding (pre-event window) and in the two months following the split (post-event window), and differences in mean between pre- and post-windows are reported. It reports the number of analysts that publish new earnings forecasts (coverage); mean (consensus), standard deviation, interquantile range of the forecasts, mean error (forecast - actual EPS); three dispersion ratios, such as (i) standard deviation scaled by consensus (disp_SD), (ii) standard error scaled by consensus (disp_SE), and (iii) interquantile range scalded by consensus (disp_IQR); uncertainty measure (V), asymmetric information measure (IA) and squared error (SE) as Equations 1, 2 and 4. The size groups are equal-size portfolio based on the market capitalization at the announcement of the split. T-statistic are reported in parenthesis. * 10%, ** 5%, *** 1% significance level.

Table 5: Compounded returns around the announcement by prior dispersion

	Disp.	(1) ret-12m	(2) ret-6m	(3) ret-3m	(4) ret-1m	(5) ret	(6) ret1m	(7) ret3m	(8) ret6m	(9) ret9m	(10) ret12m
Low DISP	0.0093***	0.717***	0.307***	0.163***	0.0502***	0.0340***	0.0261***	0.0561***	0.0796***	0.116***	0.138***
		(0.0419)	(0.0145)	(0.00996)	(0.00511)	(0.00593)	(0.00601)	(0.0111)	(0.0152)	(0.0199)	(0.0271)
Medium DISP	0.0273***	0.942***	0.439***	0.190***	0.0545***	0.0635***	0.0255***	0.0719***	0.106***	0.172***	0.187***
		(0.0448)	(0.0250)	(0.0127)	(0.00639)	(0.00659)	(0.00608)	(0.0111)	(0.0166)	(0.0269)	(0.0282)
high DISP	0.1615***	1.526***	0.634***	0.273***	0.0879***	0.0684***	0.0380***	0.0816***	0.0968***	0.144***	0.177***
		(0.0847)	(0.0353)	(0.0189)	(0.00834)	(0.00926)	(0.00758)	(0.0144)	(0.0217)	(0.0292)	(0.0348)
High - Low	0.152***	0.809***	0.327***	0.110***	0.0377***	0.0344**	0.0119	0.0254	0.0171	0.0276	0.0389
		(8.56)	(8.57)	(5.15)	(3.86)	(3.13)	(1.23)	(1.40)	(0.65)	(0.78)	(0.88)

[e] The table reports the continuously compounded returns of the observed returns from 12 months prior to the event to 12 months following the announcement of the split. Returns are averages per groups of prior dispersion ratio (standard deviation over consensus in the two months before the announcement of the event). The last frame of the table reports the differences in returns between high and low dispersion groups, with t-statistics reported in brackets. * 10%, ** 5%, *** 1% significance level.

Table 6: Compounded returns around the announcement by prior dispersion and prior size

		(1) ret_12m	(2) ret_6m	(3) ret_3m	(4) ret_1m	(5) ret	(6) ret1m	(7) ret3m	(8) ret6m	(9) ret9m	(10) ret12m
SMALL companies	LOW disp	0.835***	0.336***	0.193***	0.0604***	0.0141	0.0403***	0.0685***	0.134***	0.199***	0.216***
		(0.105)	(0.0293)	(0.0188)	(0.0102)	(0.0111)	(0.0118)	(0.0189)	(0.0289)	(0.0380)	(0.0440)
	Medium disp	0.885***	0.434***	0.180***	0.0574***	0.0568***	0.0242**	0.0728***	0.0975***	0.201***	0.224***
		(0.0705)	(0.0409)	(0.0211)	(0.0117)	(0.0124)	(0.0114)	(0.0214)	(0.0311)	(0.0572)	(0.0577)
	HIGH disp	1.139***	0.594***	0.306***	0.0807***	0.0576***	0.0649***	0.127***	0.166***	0.180***	0.211***
		(0.0792)	(0.0623)	(0.0303)	(0.0139)	(0.0135)	(0.0134)	(0.0274)	(0.0396)	(0.0509)	(0.0520)
	HIGH-LOW	0.304*	0.258***	0.113**	0.0203	0.0435*	0.0245	0.0325	0.0586	-0.0186	-0.00576
		(2.32)	(3.75)	(3.17)	(1.18)	(2.48)	(1.37)	(0.66)	(1.76)	(-0.29)	(-0.08)
MEDIUM companies	LOW disp	0.732***	0.319***	0.164***	0.0460***	0.0439***	0.0136	0.0338*	0.0258	0.0566	0.0894
		(0.0498)	(0.0244)	(0.0183)	(0.00845)	(0.0106)	(0.0103)	(0.0196)	(0.0272)	(0.0347)	(0.0597)
	Medium disp	0.881***	0.410***	0.192***	0.0460***	0.0759***	0.0215**	0.0628***	0.114***	0.147***	0.180***
		(0.0659)	(0.0339)	(0.0210)	(0.0103)	(0.0110)	(0.00954)	(0.0160)	(0.0219)	(0.0301)	(0.0390)
	HIGH disp	1.585***	0.578***	0.232***	0.0950***	0.0479***	0.0261**	0.0429*	0.0575*	0.137***	0.158***
		(0.151)	(0.0522)	(0.0266)	(0.0146)	(0.0145)	(0.0131)	(0.0243)	(0.0329)	(0.0521)	(0.0554)
	HIGH-LOW	0.853***	0.259***	0.0680*	0.0490**	0.004	0.0125	0.0317	0.00913	0.08	0.0687
		(5.38)	(4.50)	(2.11)	(2.91)	(0.22)	(0.75)	(0.74)	(0.29)	(1.28)	(0.84)
LARGE companies	LOW disp	0.585***	0.264***	0.131***	0.0439***	0.0442***	0.0241***	0.0664***	0.0783***	0.0904***	0.104***
		(0.0476)	(0.0203)	(0.0140)	(0.00769)	(0.00876)	(0.00882)	(0.0189)	(0.0215)	(0.0293)	(0.0322)
	Medium disp	1.080***	0.480***	0.200***	0.0614***	0.0563***	0.0317***	0.0817***	0.105***	0.168***	0.155***
		(0.0979)	(0.0562)	(0.0247)	(0.0111)	(0.0104)	(0.0106)	(0.0201)	(0.0337)	(0.0503)	(0.0492)
	HIGH disp	1.794***	0.715***	0.279***	0.0882***	0.0945***	0.0250**	0.0582***	0.0867***	0.1179***	0.1629***
		(0.173)	(0.0653)	(0.0375)	(0.0147)	(0.0183)	(0.0127)	(0.0230)	(0.0386)	(0.0488)	(0.0683)
	HIGH-LOW	1.209***	0.451***	0.148***	0.0443**	0.0503*	0.000907	-0.00821	0.00846	0.0275	0.0589
		(6.75)	(6.59)	(3.69)	(2.67)	(2.47)	(0.06)	(-0.19)	(0.28)	(0.48)	(0.78)

[e] The table reports the continuously compounded returns of the observed returns from 12 months prior to the event to 12 months following the announcement of the split. Returns are averages per independent groups of prior dispersion ratio (standard deviation over consensus in the two months before the announcement of the event) and market capitalization at the split announcement. We report the differences in returns between high and low dispersion groups, with t-statistics reported in brackets. * 10%, ** 5%, *** 1% significance level.

Table 7: Compounded returns around the announcement by prior dispersion and subperiod

		(1) ret_12m	(2) ret_6m	(3) ret_3m	(4) ret_1m	(5) ret	(6) ret1m	(7) ret3m	(8) ret6m	(9) ret9m	(10) ret12m
1993-1997	LOW disp	0.714***	0.303***	0.165***	0.0486***	0.0339***	0.0231***	0.0583***	0.105***	0.133***	0.171***
		(0.0601)	(0.0232)	(0.0163)	(0.00833)	(0.00924)	(0.00883)	(0.0169)	(0.0253)	(0.0310)	(0.0397)
	Medium disp	0.846***	0.409***	0.177***	0.0515***	0.0621***	0.0344***	0.0845***	0.132***	0.197***	0.224***
		(0.0605)	(0.0307)	(0.0160)	(0.00918)	(0.0106)	(0.00899)	(0.0170)	(0.0236)	(0.0319)	(0.0413)
	HIGH disp	1.196***	0.557***	0.280***	0.0700***	0.0776***	0.0383***	0.0925***	0.0962***	0.111***	0.145***
		(0.0748)	(0.0377)	(0.0238)	(0.0110)	(0.0126)	(0.0107)	(0.0205)	(0.0296)	(0.0354)	(0.0476)
	HIGH-LOW	0.482***	0.254***	0.115***	0.0214	0.0437**	0.0152	0.0343	-0.00831	-0.0224	-0.0264
		(5.03)	(5.73)	(3.98)	(1.55)	(2.79)	(1.09)	(1.29)	(-0.21)	(-0.47)	(-0.43)
1998-2002	LOW disp	0.867***	0.360***	0.188***	0.0551***	0.0359***	0.0248*	0.0377	0.0368	0.0791*	0.103*
		(0.0956)	(0.0293)	(0.0212)	(0.0110)	(0.0126)	(0.0133)	(0.0235)	(0.0297)	(0.0413)	(0.0595)
	Medium disp	1.341***	0.589***	0.231***	0.0755***	0.0767***	0.0123	0.0661**	0.0808*	0.158**	0.160**
		(0.117)	(0.0705)	(0.0350)	(0.0166)	(0.0154)	(0.0149)	(0.0261)	(0.0413)	(0.0761)	(0.0724)
	HIGH disp	2.652***	1.023***	0.355***	0.132***	0.0772***	0.0374*	0.0783**	0.0542	0.103	0.104
		(0.228)	(0.0928)	(0.0502)	(0.0214)	(0.0240)	(0.0197)	(0.0356)	(0.0538)	(0.0757)	(0.0889)
	HIGH-LOW	1.785***	0.664***	0.167**	0.0765**	0.0414	0.0126	0.0406	0.0174	0.0244	0.00127
		(7.23)	(6.82)	(3.07)	(3.18)	(1.53)	(0.53)	(0.95)	(0.28)	(0.28)	(0.01)
2003-2007	LOW disp	0.587***	0.266***	0.144***	0.0451***	0.0400***	0.0364***	0.0791***	0.106***	0.140***	0.125***
		(0.0490)	(0.0242)	(0.0129)	(0.00665)	(0.00915)	(0.00806)	(0.0167)	(0.0266)	(0.0300)	(0.0351)
	Medium disp	0.733***	0.374***	0.169***	0.0358***	0.0627***	0.0403***	0.0869***	0.0993***	0.133***	0.126***
		(0.0618)	(0.0309)	(0.0201)	(0.00884)	(0.0124)	(0.0100)	(0.0202)	(0.0314)	(0.0385)	(0.0398)
	HIGH disp	0.811***	0.374***	0.181***	0.0579***	0.0575***	0.0361***	0.0914***	0.185***	0.265***	0.330***
		(0.0622)	(0.0331)	(0.0171)	(0.0102)	(0.0125)	(0.00852)	(0.0208)	(0.0349)	(0.0425)	(0.0464)
	HIGH-LOW	0.225**	0.108**	0.0367	0.0127	0.0175	-0.000292	0.0123	0.0793	0.125*	0.205***
		(2.84)	(2.64)	(1.71)	(1.05)	(1.13)	(-0.02)	-(0.46)	(1.81)	(2.41)	(3.52)
2008-2013	LOW disp	0.397***	0.178***	0.106***	0.0561***	0.00787	0.0238**	0.0816***	0.113***	0.139**	0.206***
		(0.0476)	(0.0219)	(0.0186)	(0.00861)	(0.00986)	(0.0107)	(0.0237)	(0.0407)	(0.0558)	(0.0670)
	Medium disp	0.437***	0.260***	0.127***	0.0155	0.0471***	0.00787	0.0138	0.0506	0.121**	0.183***
		(0.0605)	(0.0401)	(0.0222)	(0.0101)	(0.0157)	(0.0186)	(0.0278)	(0.0426)	(0.0565)	(0.0642)
	HIGH disp	0.740***	0.308***	0.196***	0.0534***	0.0445**	0.0332**	0.00743	-0.0495	-0.0244	0.00240
		(0.153)	(0.0843)	(0.0523)	(0.0192)	(0.0179)	(0.0165)	(0.0360)	(0.0452)	(0.0595)	(0.0696)
	HIGH-LOW	0.343*	0.129	0.0897	-0.00275	0.0366	0.00932	-0.0742	-0.163**	-0.164*	-0.203*
		(2.14)	(1.48)	(1.62)	(-0.13)	(1.80)	(0.47)	(-1.72)	(-2.67)	(-2.01)	(-2.10)

[e] The table reports the continuously compounded returns of the observed returns from 12 months prior to the event to 12 months following the announcement of the split. Returns are averages per groups of prior dispersion ratio (standard deviation over consensus in the two months before the announcement of the event) and sub-period. We report the differences in returns between high and low dispersion groups, with t-statistics reported in brackets. * 10%, ** 5%, *** 1% significance level.

Table 8: Compounded returns around the announcement by prior dispersion and optionable stock

		(2) ret_12m	(3) ret_6m	(4) ret_3m	(5) ret_1m	(6) ret	(7) ret1m	(8) ret3m	(9) ret6m	(10) ret9m	(11) ret12m
non-Options	LOW disp	0.770***	0.326***	0.180***	0.0543***	0.0411***	0.0342***	0.0714***	0.110***	0.157***	0.161***
		(0.0739)	(0.0218)	(0.0146)	(0.00731)	(0.00761)	(0.00864)	(0.0155)	(0.0216)	(0.0291)	(0.0322)
	MEDIUM	0.980***	0.470***	0.192***	0.0537***	0.0609***	0.0231***	0.0728***	0.0991***	0.155***	0.187***
		(0.0622)	(0.0373)	(0.0171)	(0.00820)	(0.00857)	(0.00805)	(0.0155)	(0.0204)	(0.0263)	(0.0325)
	HIGH	1.458***	0.644***	0.292***	0.0911***	0.0835***	0.0479***	0.101***	0.137***	0.179***	0.218***
		(0.0986)	(0.0518)	(0.0259)	(0.0108)	(0.0118)	(0.00950)	(0.0196)	(0.0268)	(0.0328)	(0.0423)
	HIGH-LOW	0.688***	0.319***	0.111***	0.0368**	0.0424**	0.0138	0.0299	0.0278	0.0221	0.0575
		(5.58)	(5.67)	(3.74)	(2.81)	(3.02)	(1.07)	(1.20)	(0.81)	(0.50)	(1.08)
Options	LOW disp	0.662***	0.287***	0.145***	0.0458***	0.0264***	0.0174**	0.0397**	0.0471**	0.0714***	0.112**
		(0.0375)	(0.0189)	(0.0134)	(0.00714)	(0.00917)	(0.00832)	(0.0157)	(0.0214)	(0.0268)	(0.0447)
	MEDIUM	0.889***	0.396***	0.188***	0.0557***	0.0672***	0.0288***	0.0706***	0.115***	0.195***	0.188***
		(0.0630)	(0.0292)	(0.0191)	(0.0102)	(0.0103)	(0.00929)	(0.0155)	(0.0279)	(0.0534)	(0.0505)
	HIGH	1.619***	0.620***	0.247***	0.0833***	0.0468***	0.0238*	0.0533**	0.0388	0.0924*	0.115*
		(0.149)	(0.0437)	(0.0271)	(0.0131)	(0.0148)	(0.0124)	(0.0208)	(0.0359)	(0.0534)	(0.0595)
	HIGH-LOW	0.957***	0.333***	0.102***	0.0376*	0.0204	0.00634	0.0136	-0.00829	0.021	0.00266
		(6.24)	(6.99)	(3.37)	(2.52)	(1.17)	(0.42)	(0.52)	(-0.20)	(0.35)	(0.04)

[e] The table reports the continuously compounded returns of the observed returns from 12 months prior to the event to 12 months following the announcement of the split. Returns are averages per groups of prior dispersion ratio (standard deviation over consensus in the two months before the announcement of the event) and put options traded on the day of the announcement. We report the differences in returns between high and low dispersion groups, with t-statistics reported in brackets. * 10%, ** 5%, *** 1% significance level.

Table 9: Adjusted returns (4-factor model) by prior dispersion

	Prior Disp	(1) FFadj. ret0m	(2) FFadj. ret1m	(3) FFadj. ret3m	(4) FFadj. ret6m	(5) FFadj. ret9m	(6) FFadj. ret12m
LOW Prior dispersion	0.0093***	0.0309***	0.0230***	0.0531***	0.0765***	0.113***	0.135***
		6.44e-05	6.44e-05	6.44e-05	6.44e-05	6.44e-05	6.44e-05
MEDIUM	0.0273***	0.0603***	0.0223***	0.0687***	0.102***	0.169***	0.184***
		6.73e-05	6.73e-05	6.73e-05	6.73e-05	6.73e-05	6.73e-05
HIGH	0.1615***	0.0651***	0.0347***	0.0783***	0.0935***	0.140***	0.173***
		6.36e-05	6.36e-05	6.36e-05	6.36e-05	6.36e-05	6.36e-05
HIGH-LOW	0.152***	0.0342	0.0117	0.0252	0.0169	0.0274	0.0387

[e] The table reports the 4-factors risk-adjusted returns from 12 months prior to the event to 12 months following the announcement of the split. Returns are averages per groups of prior dispersion ratio (standard deviation over consensus in the two months before the announcement of the event). The last frame of the table reports the differences in returns between high and low dispersion groups, with t-statistics reported in brackets. * 10%, ** 5%, *** 1% significance level.

Table 10: Summary of the Regressions of the future returns on the Prior Dispersion

	(1) ret1m	(2) ret3m	(3) ret6m	(4) ret9m	(5) ret12m	(6) ret1m	(7) ret3m	(8) ret6m	(9) ret9m	(10) ret12m
Disp_SD	0.105	0.111	0.159	-0.00806	0.0473					
	(1.574)	(0.853)	(0.857)	(-0.0284)	(0.140)					
V						1.94e-07	1.50e-05*	2.01e-05*	1.68e-05	2.69e-05
						(0.0446)	(1.778)	(1.678)	(0.916)	(1.230)
IA						-0.0247**	-0.0706***	-0.0918***	-0.142***	-0.127**
						(-2.432)	(-3.579)	(-3.258)	(-3.267)	(-2.459)
Squared Disp_SD	-0.0525	-0.0845	-0.0584	0.0207	0.0613	0.0198	0.00891	0.0735	0.0517	0.130
	(-1.052)	(-0.867)	(-0.419)	(0.0975)	(0.242)	(0.769)	(0.178)	(1.028)	(0.473)	(0.998)
Ret_6m	0.0101	0.0636**	0.117***	0.168***	0.0928	0.00898	0.0592**	0.111***	0.158***	0.0815
	(0.780)	(2.483)	(3.061)	(2.875)	(1.330)	(0.695)	(2.322)	(2.915)	(2.696)	(1.169)
Mom_strength	0.0108	-0.0167	0.00914	-0.0345	0.0502	0.0129	-0.0129	0.0155	-0.0306	0.0555
	(0.817)	(-0.638)	(0.231)	(-0.570)	(0.696)	(0.983)	(-0.496)	(0.394)	(-0.508)	(0.775)
Sq.ret	0.180*	0.662***	-0.0970	0.553	-0.122	0.185*	0.670***	-0.0760	0.505	-0.156
	(1.891)	(3.561)	(-0.365)	(1.359)	(-0.252)	(1.946)	(3.630)	(-0.289)	(1.250)	(-0.324)
Amihud	0.00368	0.00758	0.00911	-0.00811	-0.0317	0.00428	0.00831	0.00987	-0.00729	-0.0308
	(0.652)	(0.687)	(0.576)	(-0.336)	(-1.106)	(0.759)	(0.758)	(0.629)	(-0.303)	(-1.076)
Excess turnover	0.00152	0.00723*	0.00460	0.00327	0.00683	0.00147	0.00596	0.00207	0.00312	0.00717
	(0.702)	(1.709)	(0.762)	(0.350)	(0.614)	(0.671)	(1.402)	(0.341)	(0.335)	(0.646)
Size	-2.81e-10*	-2.80e-10	-8.58e-10**	-1.29e-09*	-1.44e-09*	-2.99e-10*	-3.08e-10	-8.97e-10**	-1.32e-09**	-1.46e-09*
	(-1.803)	(-0.919)	(-1.973)	(-1.950)	(-1.828)	(-1.918)	(-1.017)	(-2.080)	(-1.993)	(-1.861)
Value/Growth	-0.000659	-0.00145	-0.0102***	-0.0136***	-0.0157***	-0.000664	-0.000988	-0.00947***	-0.0133***	-0.0151***
	(-0.730)	(-0.819)	(-4.043)	(-3.414)	(-3.321)	(-0.729)	(-0.559)	(-3.757)	(-3.320)	(-3.172)
St.Dev.Error	-0.000121	-0.000164	-0.0144	0.00811	0.0631*	-0.00141	-0.00454	-0.0202	0.00329	0.0562*
	(-0.0187)	(-0.0131)	(-0.806)	(0.297)	(1.942)	(-0.219)	(-0.363)	(-1.132)	(0.120)	(1.726)
St.Dev.Forecasts	0.0161**	0.0213	0.00935	-0.0137	-0.0679*	0.0179**	0.0181	0.00497	-0.0186	-0.0754**
	(2.270)	(1.535)	(0.473)	(-0.454)	(-1.893)	(2.500)	(1.306)	(0.251)	(-0.613)	(-2.087)
Size factor	-0.0792	-0.574**	-1.031***	-0.801	-1.922***	-0.0850	-0.579**	-1.040***	-0.808	-1.935***
	(-0.629)	(-2.329)	(-2.912)	(-1.483)	(-2.990)	(-0.676)	(-2.363)	(-2.962)	(-1.502)	(-3.020)
BtM factor	-0.285*	-1.326***	-1.509***	-1.762***	-2.454***	-0.280*	-1.304***	-1.472***	-1.760***	-2.446***
	(-1.787)	(-4.256)	(-3.387)	(-2.587)	(-3.018)	(-1.761)	(-4.212)	(-3.326)	(-2.594)	(-3.016)
Momentum Factor	-0.142	-0.115	0.251	-0.579	0.0455	-0.145	-0.122	0.241	-0.595	0.0298
	(-1.545)	(-0.638)	(0.975)	(-1.474)	(0.0974)	(-1.572)	(-0.682)	(0.942)	(-1.521)	(0.0638)
Excess Return on the Market	-0.153	-0.419*	-0.296	-0.517	-0.121	-0.145	-0.375	-0.225	-0.468	-0.0686
	(-1.277)	(-1.784)	(-0.881)	(-1.002)	(-0.196)	(-1.207)	(-1.603)	(-0.672)	(-0.911)	(-0.112)
Constant	0.0411***	0.0827***	0.128***	0.195***	0.254***	0.0534***	0.111***	0.164***	0.245***	0.300***
	(6.493)	(6.682)	(7.213)	(7.158)	(7.796)	(7.697)	(8.218)	(8.528)	(8.231)	(8.441)
Observations	1,477	1,470	1,462	1,446	1,434	1,475	1,468	1,460	1,446	1,434
R-squared	0.032	0.048	0.047	0.031	0.034	0.034	0.058	0.056	0.039	0.039

[i] This table sums up the main results of the regressions of the observed returns for 1 month to 12 months following the split announcement on prior dispersion ratio (models (1) to (4)) or the two components of asymmetric information IA and uncertainty V (models (5) to (8)). We control for firm characteristics and analysts' characteristics at the end of the month preceding the split announcements. Firm characteristics are: past 6-month returns from t-1 to t-7, market capitalization, value/growth (past 37-month returns - past 1-month return), momentum strength (past 6-month returns in excess to the median return of the market), Amihud illiquidity measure (return/dollar volume), squared returns, turnover in excess of the exchange average turnover. Analysts' variables are: squared forecasts error, standard error of analysts' forecast errors, standard deviation of analysts' forecasts. I also include the aggregate market factors, market return, size, book-to-market, and momentum. T-statistics are reported. * 10%, ** 5%, *** 1% significance levels.

Table 11: Summary of the Regressions of the CARs on Prior Dispersion

	(1) carMA5	(2) carMA30	(3) carMA60	(4) carMA90	(5) carMA5	(6) carMA30	(7) carMA60	(8) carMA90
Disp_SD	0.0277	-0.0674	-0.0978	-0.0357				
	(0.909)	(-0.988)	(-1.026)	(-0.300)				
V					-8.30e-07	6.20e-06	4.91e-06	6.43e-06
					(-0.420)	(1.406)	(0.802)	(0.839)
IA					-0.0174***	-0.0435***	-0.0882***	-0.0893***
					(-3.766)	(-4.217)	(-6.160)	(-4.988)
Squared Disp_SD	-0.00341	0.0679	0.154**	0.124	0.0173	0.0365	0.112***	0.123***
	(-0.149)	(1.329)	(2.161)	(1.399)	(1.471)	(1.391)	(3.064)	(2.694)
Ret_6m	-0.00919	0.0314**	0.0277	0.0370	-0.0104*	0.0288**	0.0232	0.0319
	(-1.558)	(2.382)	(1.503)	(1.610)	(-1.764)	(2.196)	(1.272)	(1.399)
Mom_strength	-0.00131	-0.0362***	-0.00577	0.000934	-0.000638	-0.0361***	-0.00533	0.00262
	(-0.216)	(-2.673)	(-0.305)	(0.0397)	(-0.106)	(-2.694)	(-0.287)	(0.113)
Squared Ret	-0.120***	-0.326***	-0.149	-0.238	-0.126***	-0.340***	-0.178	-0.257
	(-2.756)	(-3.340)	(-1.094)	(-1.402)	(-2.902)	(-3.515)	(-1.328)	(-1.531)
Amihud	0.00362	0.000992	-0.00336	-0.0101	0.00386	0.000820	-0.00348	-0.0101
	(1.401)	(0.172)	(-0.416)	(-1.007)	(1.505)	(0.143)	(-0.438)	(-1.011)
Excess turnover	0.00447***	0.00635***	0.000649	-0.00382	0.00471***	0.00536**	-0.00109	-0.00559
	(4.519)	(2.867)	(0.210)	(-0.992)	(4.735)	(2.415)	(-0.353)	(-1.449)
Size	0	6.59e-11	-1.21e-10	-2.83e-10	0	6.37e-11	-1.30e-10	-2.99e-10
	(0.659)	(0.412)	(-0.541)	(-1.019)	(0.594)	(0.402)	(-0.592)	(-1.086)
Value/Growth	0.000552	0.00177*	0.00148	0.000482	0.000488	0.00195**	0.00161	0.000674
	(1.337)	(1.920)	(1.144)	(0.300)	(1.177)	(2.110)	(1.252)	(0.420)
St.Dev.Error	0.00991***	0.0186***	0.0167*	0.0203*	0.00956***	0.0176***	0.0157*	0.0185
	(3.367)	(2.827)	(1.814)	(1.775)	(3.254)	(2.686)	(1.720)	(1.628)
St.Dev.Forecasts	-0.00108	-0.0113	-0.0148	-0.0329***	-0.000209	-0.0144**	-0.0177*	-0.0355***
	(-0.332)	(-1.562)	(-1.456)	(-2.605)	(-0.0640)	(-1.982)	(-1.758)	(-2.813)
Size Factor	0.00226	0.0335	-0.0436	-0.279	-0.000968	0.0374	-0.0369	-0.278
	(0.0393)	(0.260)	(-0.242)	(-1.243)	(-0.0169)	(0.292)	(-0.208)	(-1.252)
BtM Factor	-0.0780	-0.321**	-0.638***	-0.869***	-0.0849	-0.329**	-0.652***	-0.887***
	(-1.228)	(-2.260)	(-3.212)	(-3.512)	(-1.342)	(-2.329)	(-3.326)	(-3.619)
Momentum Factor	0.0601	0.0303	0.124	0.00775	0.0581	0.0254	0.116	-0.00240
	(1.446)	(0.326)	(0.956)	(0.0479)	(1.405)	(0.276)	(0.904)	(-0.0150)
Constant	0.0183***	0.0356***	0.0440***	0.0411***	0.0256***	0.0486***	0.0720***	0.0715***
	(6.509)	(5.641)	(4.994)	(3.746)	(8.270)	(7.043)	(7.509)	(5.962)
Observations	1,477	1,477	1,477	1,477	1,475	1,475	1,475	1,475
R-squared	0.049	0.035	0.027	0.026	0.059	0.046	0.051	0.044

[i] This table sums up the main results of the regressions of the cumulative abnormal returns for 5, 30, 60 and 90 days following the split announcement on prior dispersion ratio (models (1) to (4)) or the two components of asymmetric information IA and uncertainty V (models (5) to (8)). We control for firm characteristics and analysts' characteristics at the end of the month preceding the split announcements. Firm characteristics are: past 6-month returns from t-1 to t-7, market capitalization, value/growth (past 37-month returns - past 1-month return), momentum strength (past 6-month returns in excess to the median return of the market), Amihud illiquidity measure (return/dollar volume), squared returns, turnover in excess of the exchange average turnover. Analysts' variables are: squared forecasts error, standard error of analysts' forecast errors, standard deviation of analysts' forecasts. I also include the aggregate market factors, size, book-to-market, and momentum. T-statistics are reported. * 10%, ** 5%, *** 1% significance levels.

Table 12: Summary of the Regressions of the MA CARs on the Prior Dispersion with Option dummy

	(9) carMA5	(10) carMA30	(11) carMA60	(12) carMA90	(13) carMA5	(14) carMA30	(15) carMA60	(16) carMA90
Disp_SD	0.0877**	0.0892	0.101	0.147				
	(2.450)	(1.115)	(0.900)	(1.056)				
Option# Disp_SD	-0.126***	-0.330***	-0.417***	-0.385**				
	(-3.175)	(-3.712)	(-3.362)	(-2.486)				
V					-8.76e-07	6.24e-06	5.08e-06	6.58e-06
					(-0.443)	(1.414)	(0.830)	(0.858)
IA					-0.0216***	-0.0397***	-0.0727***	-0.0755***
					(-3.741)	(-3.082)	(-4.073)	(-3.378)
Option#IA					0.00873	-0.00801	-0.0324	-0.0290
					(1.208)	(-0.496)	(-1.447)	(-1.035)
Squared Disp_SD	-0.0387	-0.0244	0.0374	0.0166	0.0183	0.0357	0.108***	0.120***
	(-1.528)	(-0.430)	(0.472)	(0.168)	(1.549)	(1.355)	(2.962)	(2.619)
Ret_6m	-0.00919	0.0315**	0.0277	0.0370	-0.0105*	0.0289**	0.0235	0.0322
	(-1.562)	(2.393)	(1.509)	(1.613)	(-1.779)	(2.201)	(1.290)	(1.411)
Mom_strength	-0.00147	-0.0366***	-0.00631	0.000431	-0.000561	-0.0361***	-0.00561	0.00236
	(-0.244)	(-2.717)	(-0.335)	(0.0183)	(-0.0936)	(-2.698)	(-0.302)	(0.102)
Squared Ret	-0.115***	-0.313***	-0.133	-0.223	-0.125***	-0.340***	-0.179	-0.257
	(-2.651)	(-3.222)	(-0.978)	(-1.316)	(-2.898)	(-3.515)	(-1.333)	(-1.535)
Amihud	0.00267	-0.00149	-0.00650	-0.0130	0.00421	0.000504	-0.00476	-0.0112
	(1.030)	(-0.257)	(-0.802)	(-1.289)	(1.629)	(0.0874)	(-0.594)	(-1.119)
Excess turnover	0.00444***	0.00628***	0.000556	-0.00391	0.00468***	0.00540**	-0.000961	-0.00547
	(4.505)	(2.847)	(0.180)	(-1.016)	(4.700)	(2.427)	(-0.312)	(-1.419)
Size	5.49e-11	8.62e-11	-9.50e-11	-2.60e-10	0	6.68e-11	-1.18e-10	-2.87e-10
	(0.770)	(0.541)	(-0.427)	(-0.935)	(0.546)	(0.421)	(-0.534)	(-1.044)
Ret_36m	0.000547	0.00176*	0.00146	0.000466	0.000491	0.00195**	0.00160	0.000663
	(1.328)	(1.913)	(1.135)	(0.290)	(1.185)	(2.106)	(1.243)	(0.413)
St.Dev.Error	0.0101***	0.0191***	0.0173*	0.0209*	0.00955***	0.0176***	0.0157*	0.0186
	(3.441)	(2.913)	(1.888)	(1.828)	(3.249)	(2.687)	(1.728)	(1.633)
St.Dev.Forecasts	-0.00202	-0.0138*	-0.0179*	-0.0358***	-5.79e-05	-0.0146**	-0.0183*	-0.0360***
	(-0.621)	(-1.900)	(-1.761)	(-2.825)	(-0.0178)	(-1.999)	(-1.813)	(-2.850)
Size factor	-0.00514	0.0141	-0.0681	-0.302	-0.00181	0.0381	-0.0338	-0.275
	(-0.0894)	(0.110)	(-0.379)	(-1.345)	(-0.0316)	(0.298)	(-0.190)	(-1.239)
BtM factor	-0.0899	-0.352**	-0.677***	-0.905***	-0.0825	-0.331**	-0.660***	-0.895***
	(-1.417)	(-2.485)	(-3.416)	(-3.659)	(-1.305)	(-2.342)	(-3.371)	(-3.649)
Momentum Factor	0.0670	0.0484	0.147	0.0288	0.0578	0.0257	0.117	-0.00134
	(1.615)	(0.522)	(1.134)	(0.178)	(1.397)	(0.279)	(0.913)	(-0.00838)
Constant	0.0187***	0.0364***	0.0450***	0.0421***	0.0255***	0.0487***	0.0724***	0.0718***
	(6.639)	(5.796)	(5.129)	(3.840)	(8.232)	(7.053)	(7.551)	(5.990)
Observations	1,477	1,477	1,477	1,477	1,475	1,475	1,475	1,475
R-squared	0.056	0.044	0.034	0.030	0.060	0.047	0.053	0.045

[i] This table sums up the main results of the regressions of the cumulative abnormal returns for 5, 30, 60 and 90 days following the split announcement on prior dispersion ratio (models (1) to (4)) or the two components of asymmetric information IA and uncertainty V (models (5) to (8)). We include an interacted dummy for traded options at the day of the announcement. We control for firm characteristics and analysts' characteristics at the end of the month preceding the split announcements. Firm characteristics are: past 6-month returns from t-1 to t-7, market capitalization, value/growth (past 37-month returns - past 1-month return), momentum strength (past 6-month returns in excess to the median return of the market), Amihud illiquidity measure (return/dollar volume), squared returns, turnover in excess of the exchange average turnover. Analysts' variables are: squared forecasts error, standard error of analysts' forecast errors, standard deviation of analysts' forecasts. I also include the aggregate market factors, size, book-to-market, and momentum. T-statistics are reported. * 10%, ** 5%, *** 1% significance levels.

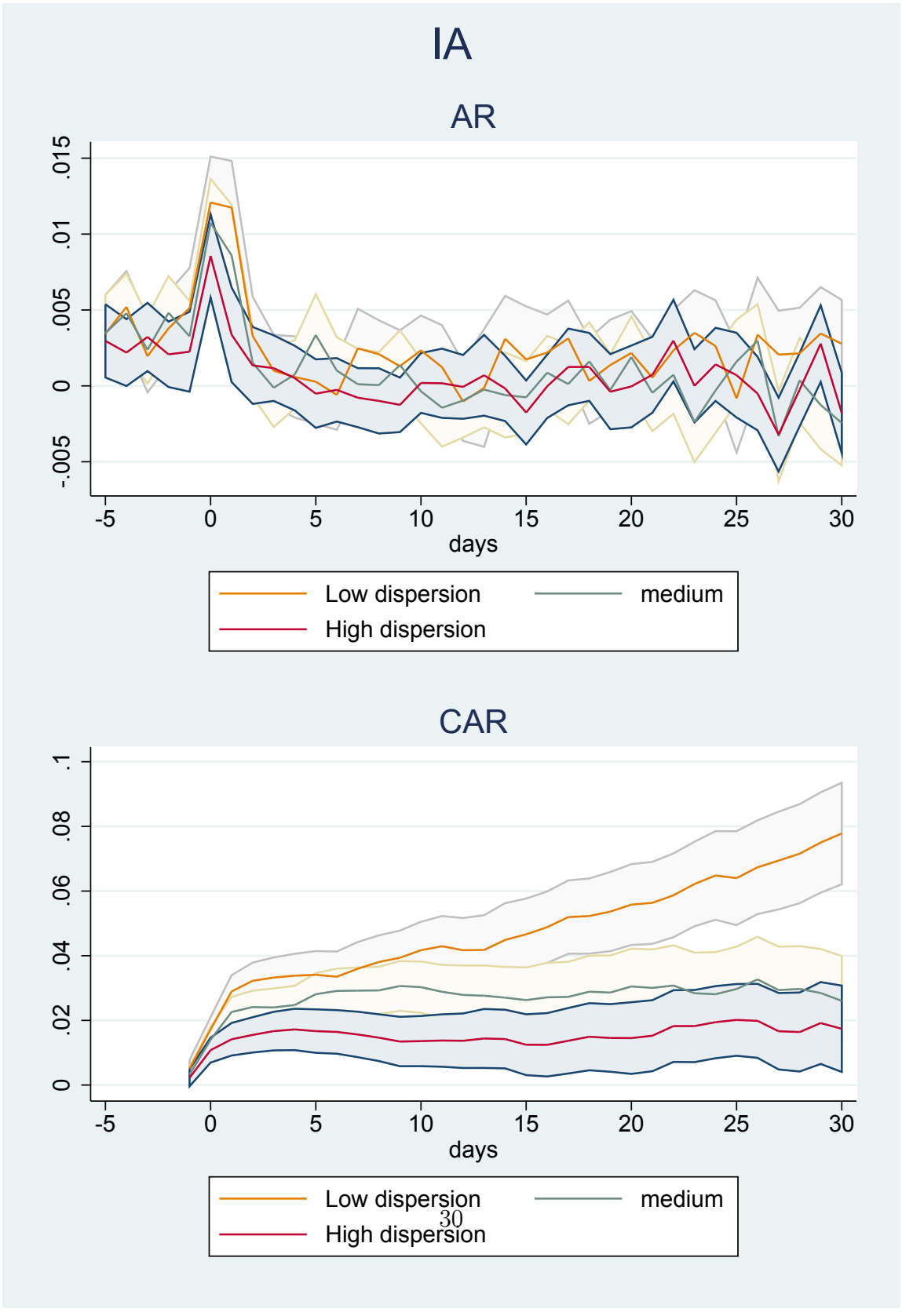

Figure 1: Cumulative Abnormal Returns by Information Asymmetry Groups. These figures summarizes the time series of the abnormal returns and cumulative abnormal returns by prior asymmetric information measure IA, such as Equation 2. Abnormal returns are computed from a market-adjusted model.

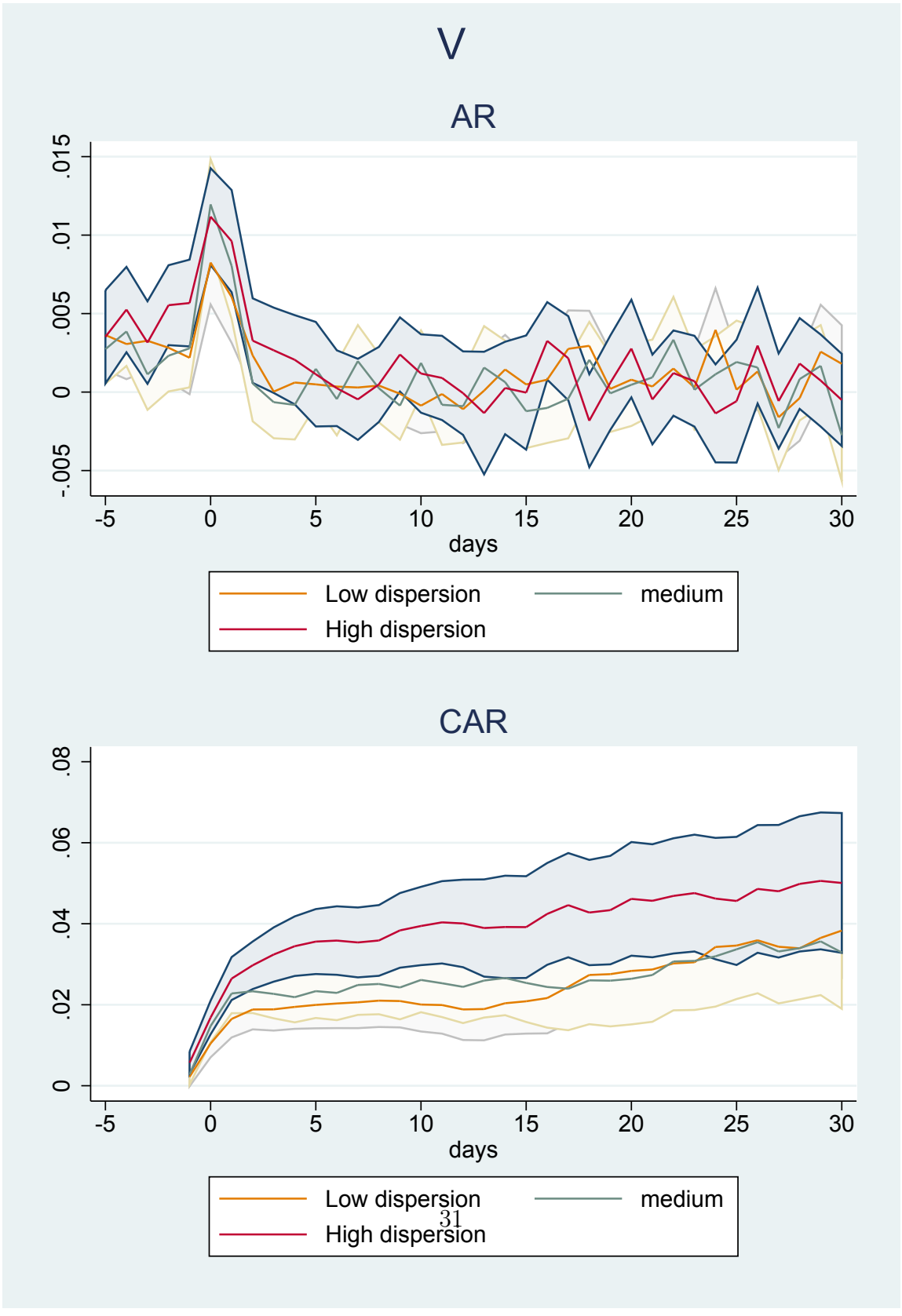

Figure 2: Cumulative Abnormal Returns by Information Asymmetry Groups. These figures summarizes the time series of the abnormal returns and cumulative abnormal returns by prior uncertainty measure V, such as Equation 1. Abnormal returns are computed from a market-adjusted model.

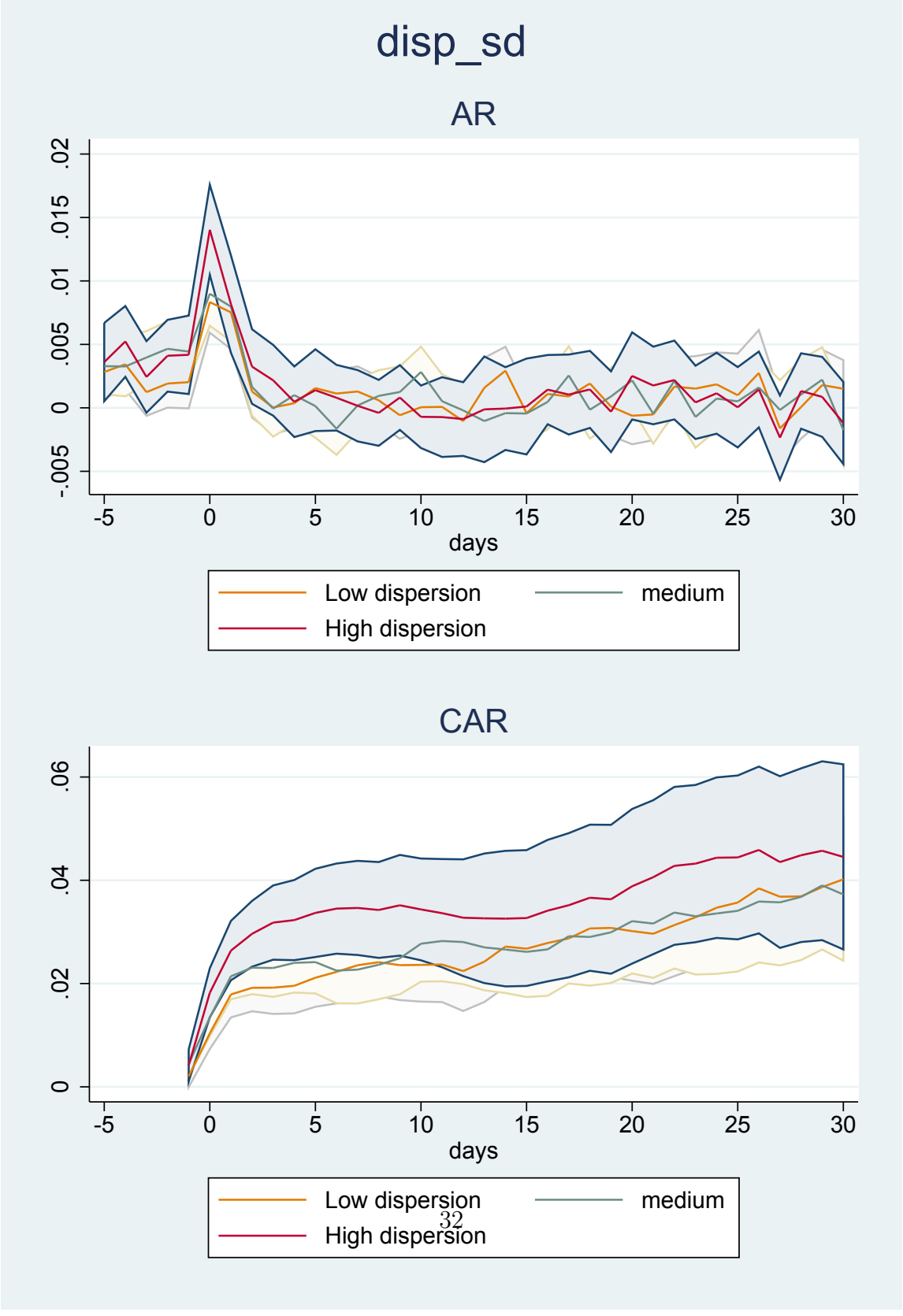

Figure 3: Cumulative Abnormal Returns by Dispersion Groups. These figures summarizes the time series of the abnormal returns and cumulative abnormal returns by prior dispersion, as standard deviation over consensus. Abnormal returns are computed from a market-adjusted model.