# **Investor Disagreement in Family Firms**

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## ABSTRACT

Investor disagreement relates to circumstances in which market participants may interpret the same information differently. According to previous theoretical and empirical studies, the level of investor disagreement is determined according to different features of the economic environment – one of them is the precision of public information disclosure. This research examines this feature using family firms, relying on the notion that the special characteristics of family firms lead to a better quality of financial reporting relative to non-family firms. Therefore, we test whether family firms have a lower level of investor disagreement following disclosure of financial reports. The results are mixed, where one disagreement measure indicates that reporting of family firms generates a lesser amount of disagreement than reporting of non-family firms, whereas the second measure suggests similar investor response. When we differentiate between reporting types, we find that the source of the lower level of disagreement recorded using the first measure is reports, as opposed to annual ones, and positive reports, as opposed to negative ones). This may indicate that the impact of family ownership is more prominent in such instances.

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#### 1. <u>Introduction</u>

Investor disagreement pertains to circumstances in which market participants may interpret the same information differently. This phenomenon was identified by Beaver (1968), who noticed that following a firm's information disclosure (such as publication of its financial reports), there may be a sharp increase in trading volume with a marginal effect on share prices. In this respect, Karpoff (1986) suggests that an increase in trading volume subsequent to an informative disclosure may result from two aspects of disagreement: prior dispersion in investors' beliefs and the change in beliefs following the announcement. Kandel and Pearson (1995) develop a model of trade that incorporates differential interpretations among investors following public announcements, even when there is no asymmetric information in the market. Consistent with their predictions, they find significant positive abnormal trading volumes associated with quarterly earnings announcements. Kim and Verrecchia (1994) show that if investors differ in their ability to process information, the release of public information will create information asymmetry on the announcement date that may increase trading volume.

This paper focuses on investor disagreement in family firms. Family firms, which constitute a significant part of the economy, have attracted the attention of researchers across different disciplines. Previous literature identified that due to special characteristics of family firms, they are less likely to engage in earnings manipulation, exhibit lower abnormal accruals, lower likelihood of earnings smoothing, and fewer restatements – all indicating a better quality of financial reporting relative to non-family firms (see Ali, Chen and Radhakrishnan, 2007; Cascino et al., 2010; Defond and Zhang, 2014; Khalil & Mazboudi, 2016; Prencipe et al., 2011; Tong, 2008; and Wang, 2006). Moreover, recently Abudy, Amir and Shust (2024), who analyze audit rates and audit hours, find that the reporting quality of family firms is higher than that of non-family firms (see also Ghosh and Tang, 2015).

One of the important determinants of investor disagreement in both the theoretical and empirical literature is the precision of the information disclosure (e.g., Kim and Verrecchia, 1994; Kandel and Pearson, 1995). For example, Kim and Verrecchia (1994) examine how different features of the economic environment – such as the precision of the public information (which is relevant to our case) – affect the contemporaneous expected trading volume on the announcement date. Therefore, we conjecture that due to the superior reporting quality of family firms, their disclosures are be more precise. Thus, upon an information disclosure investor disagreement in family firms is lower than in non-family firms.

We use a sample of financial statement filings of firms listed on the Tel Aviv Stock Exchange (TASE) in the years 2007-2018. Publicly traded Israeli firms provide a good setting for an empirical examination of the relationship between family ownership and investor disagreement because they are mandated to explicitly disclose family relationships among all stakeholders, directors, and managers in annual financial statements. Our sample consists of approximately 9,600 observations. The empirical analysis employs two disagreement measures capturing abnormal trading volume. Results for the full sample are mixed: The regressions using one of the measures indicates that family ownership reduces investor disagreement, while regressions using the other measure do not record a significant effect for family ownership. Hence, the evidence is inconclusive.

Next, we examine whether family ownership has differential effect on annual versus quarterly filings. These types of reports differ in the amount of new information since annual filings convey much more information than quarterly ones, and also in the level of verification because annual statements are audited while quarterly statements are reviewed by auditors. Therefore, we analyze the influence of family ownership on disagreement separately for each type of filing. The results for the annual reports suggest that the amount of disagreement for family firms is similar to the amount of disagreement for non-family firms. However, the results for the quarterly reports are mixed. As before, one disagreement measure indicates lower disagreement for family firms, whereas the second measure shows no significant difference.

Additionally, we examine another dimension of the reporting – information perceived by investors as positive or negative. Prior literature suggests that positive information may be perceived by investors as less credible, hence generate more disagreement than negative information (Abudy and Shust, 2020). Thus, the analysis also examines whether family ownership affects investor disagreement differently when the firm discloses good versus bad news. The results for the negative reports indicate that family ownership has no significant influence on investor disagreement. Conversely, the results for the positive reports are mixed, where one measure suggests lesser disagreement for family firms and the second does not.

Summing up the sub-sample analyses, the evidence demonstrates that family ownership does not affect investor disagreement when the reporting is deemed reliable. Such is the case of annual reports audited by the external auditor, and the case of negative reports, conveying information that probably does not benefit the firm or its executives. However, when the reporting is characterized by low reliability, family ownership may work to improve precision and reduce investor disagreement. Such circumstances are quarterly reports, which are not audited, and positive reports, which may be suspected of earnings management. Nevertheless, the inconclusive empirical results prevent clear conclusions.

The remainder of this study is organized as follows. Section 2 reviews the literature and poses the research questions. Section 3 presents the research design and the sample. Section 4 reports the empirical results and Section 5 concludes.

#### 2. <u>Relevant literature and research questions</u>

Theoretical and empirical studies suggest that different investors may interpret public information differently, and that firms' announcements can foster substantial disagreement among investors. Kim and Verrecchia (1994) have shown that, if investors differ in their ability to process earnings information, the release of earnings announcements temporarily increases information asymmetry at the announcement date. Kandel and Pearson (1995) developed a model of trade around public announcements that incorporates differential interpretations. As the model predicts, the authors find significant positive abnormal trading volumes associated with quarterly earnings announcements, indicating that investors do not interpret the announcements identically. Bamber, Barron, and Stober (1997) document three distinct aspects of disagreement that have incremental roles in explaining abnormal trading volume around earnings announcements: dispersion in prior beliefs, change in dispersion, and belief jumbling. This stream of literature indicates that at least some earnings announcement spur differential belief revisions caused by differential interpretations; i.e., a given announcement might convey different information to different investors.

To illustrate the effect of the Rule on trading volume we employ the framework of Kim and Verrecchia (1994), who model the impact of the arrival of new information on trading dynamics. In their model, when a firm discloses information to market participants, it contains public information as well as some private information about the firm's performance. This private information can be extracted by sophisticated investors at some cost. Gathering the private information creates information asymmetry between the more-informed and the lessinformed investors. An important feature of the model is that higher information asymmetry does not necessarily imply lower trading volume. While uninformed traders will avoid trading at times of information disclosure since they are aware of their information disadvantage, informed traders will choose to trade on these dates. Kim and Verrecchia (1994) address the precision of the public information and demonstrate that the expected trading volume can be higher at the time of an announcement relative to non-announcement dates if the precision is low. Notably, the precision of all available public information reflects both the precision of the public information known prior to the announcement and the precision of the additional information that becomes public on the announcement date.

We argue that family ownership may affect the precision of financial reporting. Prior literature on family firms considers their special attributes that influence the quality of financial reporting (for a comprehensive review of the literature, see Prencipe et al., 2014). Numerous papers show that family members are strongly motivated to preserve the long-term prosperity of the firm (Anderson & Reeb, 2003; Miller & Le Breton-Miller, 2005; Miller et al., 2008). This focus on long-term survival rather than short-term profitability leads family firms to take fewer risks. Hence, family ownership is expected to diminish earnings management. Moreover, the strong identification of family members with the firm makes the protection of reputation an important driver of business and reporting decisions (Anderson, Mansi, and Reeb, 2003; Prencipe et al., 2014; Wang, 2006), which also discourages family firms from manipulating financial reporting. Consistent with these incentives, numerous papers suggest that family firms have better reporting quality than non-family firms. The empirical findings indicate lower abnormal accruals, lesser likelihood of earnings smoothing, greater earnings informativeness, less restatements and a lower likelihood of auditor resignation for family firms (Ali et al., 2007; Cascino et al., 2010; Khalil & Mazboudi, 2016; Prencipe et al., 2011; Tong, 2008; Wang, 2006). Other studies indicate lower audit fees and audit hourly rates for family firms, presumably implying lower audit risk (Abudy, Amir and Shust, 2024; Ghosh and Tang, 2015). Hence, a large body of literature suggest that family firms have a better reporting quality than non-family firms. A possible manifestation of the better reporting quality may be that family firms have more precise reports. Consequently, according to Kim and Verrecchia (1994), the reports of family firms are expected to foster less investor disagreement than reports of nonfamily firms. Thus, the central research question of this study is whether financial reports of family firms are associated with lower disagreement.

To gain further insights into the effect of family ownership, we perform additional tests by dividing the sample into sub-categories. First, we divide the sample into annual reports and quarterly reports. There are significant differences between the two: on the one hand, annual reports include much more information than quarterly ones, hence their release in expected to generate more disagreement. On the other hand, annual reports are audited by the external auditors whereas quarterly reports undergo only a narrower review process. Therefore, quarterly reports are expected to convey less precise information to investors. Given this consideration, and the presumably enhanced reliability of financial reporting made by family firms, we conjecture that the effect of family ownership on investor disagreement would be stronger for quarterly reports than for annual ones.

Second, we divide the sample into positive reports – that is, filings containing information that investors perceived as good news – and negative reports. Consistent with D'Augusta Bar-Yosef, and Prencipe (2016) and Abudy and Shust (2020), we conjecture that positive reports are less precise and more open to interpretation than negative reports. The reason is that such reports are more likely to reflect managerial optimism or earnings management. If this is the case, then the presumed effect of family ownership on disagreement may be more noticeable for positive reports.

#### 3. <u>Sample selection and research design</u>

This research utilizes a sample of financial statement filings of firms listed on the Tel Aviv Stock Exchange (TASE) in the years 2007-2018. Publicly traded Israeli firms provide a suitable setting for an empirical examination of the relationship between family ownership and investor disagreement because they are mandated to explicitly disclose family relationships among all stakeholders, directors, and managers in annual financial statements. The sample includes hand collected data from each firm's financial statements on the number of family members on the board of directors and in top management. Following prior literature (Anderson & Reeb, 2003; Villalonga & Amit, 2006; Weiss, 2014), we consider a firm as a family firm if at least two family members serve either as directors or as officers of the firm. Nevertheless, alternative definitions will be used for robustness. We exclude from the sample dually listed firms and financial institutions. We also exclude firms without sufficient information for the calculation of the disagreement measures. Out of the entire sample, about 41% are filings made by family firms, consistent with prior literature (e.g., Abudy and Shust, 2023; Abudy, Amir and Shust, 2024; Weiss, 2014). Trading data was obtained from TASE website and financial control variables was extracted from the Super Analyst database, which provides financial statement data.

To measure investor disagreement, we rely on a large body of work that establishes a relationship between trading volume and investor disagreement, both theoretically (Varian, 1985; Karpoff, 1986; Holthausen & Verrecchia, 1990; Harris & Raviv, 1993; Kim & Verrecchia, 1991, 1994, 1997) and empirically (Bamber & Cheon, 1995; Kandel & Pearson, 1995; Bamber et al., 1997; Garfinkel & Sokobin, 2006; Garfinkel, 2009; D'Augusta, Bar-Yosef, & Prencipe, 2015). In particular, Garfinkel (2009) suggests that unexplained trading volume is the best proxy for opinion disagreement, and that other measures utilized in the past suffer from various biases and shortcomings, which impair their ability to capture investor

disagreement. Accordingly, we will employ the two metrics of unexplained trading volume utilized in Garfinkel and Sokobin (2006) and Garfinkel (2009) to measure investor disagreement around filing dates: the first measure is abnormal market-adjusted turnover (DETLA\_TO) around the filing date t. This value is the average daily market-adjusted turnover for the filing window [t-1, t+1] minus a similarly-calculated measure over the pre-event window [t-54, t-5]. DELTA\_TO reflects the portion of trade volume that is not explained by variations in market liquidity or by constant firm-specific factors. The first measure is standardized unexplained volume (SUV), calculated as the standardized difference between actual and expected volumes during the three-day filing window [t-1, t+1]. Expected volume is based on a regression of trading volume on the absolute value of returns for the firm during the period prior to the event window. Hence, SUV controls for trading that is likely to reflect investor reaction to the information content of the announcement by controlling for trading associated with announcement returns. It is in line with the literature showing that the arrival of new information about a stock can lead to higher trading volume (see Holthausen & Verrecchia, 1990).

Table 1 reports descriptive statistics for the sample. Panel A presents statistics for the full sample, whereas Panel B differentiates between family and non-family firms. Comparing the two disagreement measures between the two, the results are mixed. Mean value of DELTA\_TO is significantly lower for family firms, equal to 0.156 compared to 0.237 for non-family firms. The difference is significant at the 0.01 level. Conversely, the second measure SUV does not significantly diverge between family and non-family firms.

#### 4. <u>Regression analysis</u>

The analysis examines investor disagreement around filing dates using the two disagreement measures, DELTA\_TO and SUV, calculated for each filing on the sample. These measures are the dependent variables in the following regressions:

$$DELTA\_TO_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(1)  
$$SUV_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(2)

Where FAMILY is a dummy variable equal to one for family firms, or zero for nonfamily firms. Control variables are consistent with prior literature (D'Augusta, Bar-Yosef, and Prencipe (2016; Abudy and Shust, 2020): the logarithm of the firm's total assets (LN\_ASSETS), book-to-market value of equity (BV\_MV), financial leverage (LEV) and stock return (RET). The regression incorporates year and industry fixed effects and clusters standard errors by firm.

Table 2 reports estimation reports for the full sample. Each regression is measured twice (with and without the control variable RET) since it can be argued that stock return is already incorporated in the measure SUV that adjusts trading volume to contemporaneous return. The results are inconclusive: in the specifications using DELTA\_TO as a dependent, the coefficient on the dummy variable FAMILY is negative and significant, indicating that family ownership is associated with less investor disagreement. However, in the specifications employing SUV as a dependent variable the coefficient on FAMILY is insignificant, suggesting that investors respond similarly to reports of family and non-family firms. Hence, the results do not provide a clear conclusion as to the effect of family ownership on investor disagreement.

Next, we distinguish between annual and quarterly reports. As noted above, there are fundamental differences between the contents of these reports and their verification. Therefore, we separate the full sample to two sub-samples: annual reports and quarterly reports. We repeat the estimation of Equation (1) and Equation (2) for each of the sub-samples. Table 2 reports the results for the annual reports. In all four specifications the coefficient on FAMILY negative albeit insignificant, indicating that the effect of annual reports on investor disagreement is similar for family and non-family firms. The results for the sample of quarterly reports are presented in Table 3. Here, the two measures yield inconsistent results. In the two specifications with DELTA\_TO as a dependent variable, the coefficient on FAMILY is negative and marginally significant, equal to -0.082 (p-value=0.057) in the first specification and -0.084 (p-value=0.054) in the second specification. Such results can indicate that family ownership decreases investor disagreement following quarterly reports, as might be expected. Nevertheless, the two specifications using SUV a dependent variable do not support this notion since they yield insignificant coefficients on FAMILY. Therefore, the evidence on quarterly reports is inconclusive.

Next, we examine the effect of the reporting content. For this purpose, we classify the reports in our sample as either positive or negative. We define positive reports as reports associated with positive stock return in the three-day period surrounding their filing [t-1,t+1], whereas negative reports are defined as reports associated with negative stock return in this period. We separate the full sample into two sub-samples, one of them consists of positive reports and the seconds consists of negative reports. Notably, positive reports account for approximately 53% of all reports. As before, we estimate Equation (1) and Equation (2) separately for each sub-sample.

Table 5 reports estimation results for the sub-sample of positive reports. As in the case of quarterly reports, the two disagreement measures yield mixed results. When DELTA\_TO is the dependent variable, the coefficient on FAMILY is negative and significant. In the first specification the coefficient is equal to -0.100 (p-value=0.034) and in the second specification it is -0.093 (p-value=0.046). Conversely, the results using SUV as a dependent variable are different. In both specifications the coefficient on FAMILY is negative yet insignificant.

Hence, this analysis does not provide a clear conclusion on the effect of family ownership on disagreement following positive reports. Lastly, Table 6 presents the results for the sub-sample of negative reports. In all specifications the coefficient on FAMILY is insignificant. Thus, we conclude that family ownership does not influence investor disagreement upon negative reports.

Taken together, our results indicate that in the two cases of relatively credible reports, that is, annual reports audited by the external auditor and negative reports, conveying bad news to investors, family ownership does not affect investors response to the new information. It seems that in these cases investors do not believe that family ownership improves the precision of the information released to the market. However, in cases of less credible reports – quarterly reports, reviewed rather than audited, and positive reports which may reflect the firm's unjustified optimism or earnings management – there are partial indications that family ownership reduces investor disagreement.

## 5. <u>Conclusions</u>

Investor disagreement pertains to circumstances in which market participants may interpret the same information differently. This paper focuses on investor disagreement in family firms since previous literature demonstrated their superior quality of financial reporting. Since the precision of the information is an important determinant of investor disagreement, we examine whether reporting of family firms generate less disagreement than reporting of non-family firms. The results are mixed, where one disagreement measure indicates that family ownership reduces investor disagreement, while the other measure does not suggest a significant effect for family ownership.

Additional sub-sample analyses demonstrates that family ownership does not affect investor disagreement when the reporting is deemed reliable, such as annual reports and negative reports. However, when the reporting is characterized by low reliability, such as quarterly reports and negative reports, the results are inconclusive. As before, only one of the two disagreement measures suggests that family ownership reduces investor disagreement. Thus, the analysis does not support a decisive conclusions on the effect of family ownership on investor disagreement.

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### **Tables**

Table 1	– Desc	riptive	statistics

Panel	ΙA	– F	ull	sam	ole

Variable	Obs.	Mean	Median
DELTA_TO	9,682	0.204	0.153
SUV	8,671	0.298	0.307
LN_ASSETS	9,683	13.657	13.521
BV_MV	9,683	1.135	0.856
LEV	9,683	0.396	0.430
RET	9,683	0.002	0.001

Panel B – Family versus non-family firms

Family					Non-family			Difference	
Variable	Obs.	Mean	Median	Obs.	Mean	Median	Value	P-value	
DELTA_TO	3,977	0.156	0.150	5,705	0.237	0.156	-0.081	0.009	
SUV	3,523	0.299	0.311	5,148	0.297	0.306	0.002	0.956	
LN_ASSETS	3,978	13.915	13.734	5,705	13.477	13.433	0.438	<.0001	
BV_MV	3,978	1.221	0.911	5,705	1.075	0.819	0.146	0.012	
LEV	3,978	0.421	0.450	5,705	0.379	0.415	0.042	<.0001	
RET	3,978	0.002	0.001	5,705	0.002	0.001	0.000	0.441	

The table reports descriptive statistics for the sample. Panel A reports statistics for the full sample. Panel B reports descriptive statistics for the sub-samples of family firms and non-family firms. DELTA\_TO is The change in market-adjusted turnover, equal to the average daily market-adjusted turnover for the filing window [t-1, t+1] minus a similarly calculated measure over the window [t-54, t-5]; SUV is standardized unexpected volume over the filing window [t-1, t+1], equal to the scaled (by the estimation window standard deviation of prediction errors) error from a market model-style regression of volume on positive and negative returns; LN\_ASSETS is The natural logarithm of a firm's total assets, in millions of New Israeli Shekels. BV\_MV is the ratio between firm *i*'s book value of equity and market value of equity; LEV is financial leverage equal to the sum of long-term debt and debt in current liabilities divided by the sum of long-term debt, debt in current liabilities, and market value of equity; RET is stock return over the filing window [t-1, t+1]. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

Dependent:	Delt	9 TO	Delta TO		SI	IV	SUV	
Dependent.	Den	a_10	Den	a_10		, <b>v</b>	507	
	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
Intercept	-0.076	0.751	-0.071	0.767	-0.841	<.0001	-0.844	<.0001
FAMILY	-0.070	0.060	-0.071	0.059	-0.032	0.373	-0.032	0.363
LN_ASSETS	-0.001	0.976	-0.002	0.909	0.071	<.0001	0.070	<.0001
BV_MV	-0.002	0.461	-0.001	0.611	-0.028	<.0001	-0.028	<.0001
LEV	0.127	0.450	0.139	0.407	-0.155	0.080	-0.145	0.099
RET			6.845	<.0001			7.765	<.0001
Fixed year and industry	YES		YES		YES		YES	
R2	0.024		0.028		0.052		0.052	
Obs.	9,682		9,682		8,671		8,671	

Table 2 - Regression analysis of investor disagreement

The table reports estimation results of Equation (1) and Equation (2) on the full sample of financial reports. The regression models are:

$$DELTA\_TO_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(1)  
$$SUV_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(2)

				Annual rej	ports			
Dependent:	Delt	a_TO	Delta_TO		SUV		SUV	
	Estimate	P-value	<b>Estimate</b>	P-value	<b>Estimate</b>	P-value	Estimate	P-value
Intercept	-0.448	0.050	-0.454	0.046	-0.686	0.012	-0.702	0.010
FAMILY	-0.040	0.458	-0.038	0.487	-0.061	0.322	-0.057	0.349
LN_ASSETS	0.022	0.198	0.020	0.249	0.069	0.001	0.067	0.002
BV_MV	-0.005	0.306	-0.005	0.345	-0.032	0.006	-0.031	0.005
LEV	-0.044	0.726	-0.013	0.915	-0.296	0.060	-0.256	0.104
RET			6.773	0.016			8.287	<.0001
Fixed year and industry	YES		YES		YES		YES	
R2	0.056	i	0.063	1	0.009		0.010	
Obs.	2,516		2,516		2,228		2,228	

Table 3 – Regression analysis of investor disagreement surrounding annual reports

The table reports estimation results of Equation (1) and Equation (2) on the sub-sample of annual reports. The regression models are:

$$DELTA\_TO_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN \_ASSETS_{i,t} + \beta_3 BV \_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(1)  
$$SUV_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN \_ASSETS_{i,t} + \beta_3 BV \_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(2)

				Quarterly r	reports			
Dependent:	Delta	L_TO	Delta_TO		SUV		SUV	
	<b>Estimate</b>	P-value	Estimate	P-value	<b>Estimate</b>	P-value	Estimate	P-value
Intercept	0.114	0.731	0.123	0.710	-0.831	<.0001	-0.829	<.0001
FAMILY	-0.082	0.057	-0.084	0.054	-0.024	0.534	-0.025	0.506
LN_ASSETS	-0.013	0.665	-0.014	0.627	0.067	<.0001	0.067	<.0001
BV_MV	-0.001	0.786	-0.000	0.981	-0.028	<.0001	-0.028	<.0001
LEV	0.183	0.411	0.188	0.399	-0.112	0.234	-0.111	0.234
RET			6.486	<.0001			7.170	<.0001
Fixed year and industry	YES		YES		YES		YES	
R2	0.032		0.036		0.042		0.050	
Obs.	7,166		7,166		6,443		6,443	

Table 4 – Regression analysis of investor disagreement surrounding quarterly reports

The table reports estimation results of Equation (1) and Equation (2) on the sub-sample of quarterly reports. The regression models are:

$$DELTA\_TO_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(1)  
$$SUV_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$$
(2)

				Positive re	eports			
	Delt	a_TO	Delta_TO		SUV		SUV	
	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
Intercept	-0.107	0.609	-0.541	0.007	-0.410	0.063	-0.670	0.003
FAMILY	-0.100	0.037	-0.093	0.046	-0.052	0.241	-0.049	0.256
LN_ASSETS	0.003	0.867	0.015	0.275	0.056	0.001	0.065	<.0001
BV_MV	-0.008	0.296	-0.008	0.261	-0.033	0.003	-0.033	0.003
LEV	-0.030	0.786	-0.057	0.602	-0.008	0.936	-0.030	0.755
			23.194	<.0001			12.007	<.0001
Fixed year and industry	YES		YES		YES		YES	
R2	0.031		0.060	)	0.045		0.056	
Obs.	5,115		5,115		4,742		4,742	

Table 5 – Regression analysis of investor disagreement surrounding positive reports

The table reports estimation results of Equation (1) and Equation (2) on the sub-sample of positive reports, that is, reports for which the return in the three-day window around the filing date [t-1, t+1] was positive. The regression models are:

 $DELTA\_TO_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$ (1)  $SUV_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$ (2)

	Negative reports							
	Delt	a_TO	Delta TO		SUV		SUV	
	<b>Estimate</b>	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
Intercept	0.014	0.973	-0.150	0.718	-1.281	<.0001	-1.391	<.0001
FAMILY	-0.034	0.446	-0.022	0.624	0.002	0.971	0.006	0.897
LN_ASSETS	-0.009	0.817	-0.007	0.848	0.084	<.0001	0.087	<.0001
BV_MV	0.002	0.560	0.001	0.695	-0.024	<.0001	-0.025	<.0001
LEV	0.312	0.340	0.291	0.373	-0.312	0.006	-0.326	0.004
			-15.630	<.0001			-6.603	0.003
Fixed year and industry	YES	5	YES		YES		YES	
R2	0.025	i	0.033		0.045		0.047	
Obs.	4,567		4,567		3,929		3,929	

Table 6 – Regression analysis of investor disagreement surrounding negative reports

The table reports estimation results of Equation (1) and Equation (2) on the sub-sample of negative reports, that is, reports for which the return in the three-day window around the filing date [t-1, t+1] was negative. The regression models are:

 $DELTA\_TO_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$ (1)  $SUV_{i,t} = \alpha + \beta_1 FAMILY_{i,t} + \beta_2 LN\_ASSETS_{i,t} + \beta_3 BV\_MV_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RET_{i,t} + \varepsilon_{i,t}$ (2)