The market informativeness of analyst forecasts in family firms

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ABSTRACT

Analyzing an international sample of listed firms during 2007-2019, this study is the first to examine the market informativeness of financial analyst news issued for family-owned corporations and offer evidence on whether family control affects the way the markets value public information. The empirical findings document that the incremental information contained in the analysts' earnings news of family firms is priced by the market by at least 50% more than that of non-family firms with the pricing increasing further for family firms that have also issued management guidance for the reference fiscal period. Drawing from the agency and socioemotional wealth preservation theories, we propose that one primary driving factor of the increased value relevance of analyst news in family firms is the superiority of information contained in the management guidance issued by those firms. Disaggregating analyst news into management guidance and residual information components empirically supports this conjecture. As the financial analysts seem to under-react to the management guidance issued by family firms, particularly following negative guidance surprises, the increased pricing may also indicate that investors are aware of the superiority of forward-looking information contained in the management guidance of family firms and over-price their analyst news to correct the analyst under-reaction tendency. Several other theoretical hypotheses that explain the findings and may further enhance the management guidance hypothesis are proposed (analyst effort, incentives, analyst reliance hypothesis).

Keywords: family firms; analyst earnings forecasts; stock returns; management guidance

JEL classifications: D80; G14; G24; M41

1. Introduction

Motivated by the importance of analyst expectations for capital markets valuation and the unique nature and contribution of family firms to the global economy[2], we examine an international sample of listed firms during 2007-2019 to present empirical evidence on the market informativeness[3] of analyst news in family firms and offer some theoretical explanations that may drive the empirical results. The study is the first to investigate the value relevance of analyst expectations in family firms. We infer that the incremental information contained in analyst earnings news of family firms is priced by the capital markets by at least 50% more than that of non-family firms. After disaggregating analyst news into management guidance and residual information components, we find that the increased pricing primarily derives from the management guidance component. The finding may be associated with a superiority of the information contained in the management guidance issued by those firms that can be interpreted in the context of the agency and socioemotional wealth preservation theories. In family firms, the closer alignment between shareholders and management leads to a better monitoring environment (lower Type I agency conflict). In addition, reputational concerns and affective endowment are significantly more heightened in family firms (socioemotional wealth preservation). Therefore, there is less concern for the disclosure of negative expectations (higher integrity) and focus on the long-term value of the firm, a notion that the market incorporates in its pricing of analyst news.

Accounting equity valuation entails predicting the expected profitability of the firm to derive the series of implied future earnings and discounting this series to obtain an estimate of intrinsic value. Consequently, expectations of higher future earnings are viewed as positive stock market signals. Following this line of thought, several studies have documented that analysts'

[2] Anderson and Reeb, 2003; Chen et al., 2008; Prencipe et al., 2014.
[3] The terms 'market informativeness' and 'value relevance' are used interchangeably throughout the study.

earnings forecasts are signals that convey value-relevant information, and that as a result, the capital markets move in the direction of these forecasts (e.g., Abarbanell et al., 1995; Cheng, 2005; Clement and Tse, 2003; Frankel et al., 2006; Kothari et al., 2016). Analyst expectations of corporate performance can thus be viewed as a representation of the unobservable market expectations since financial analysts act as the information intermediaries between a firm and the capital markets.

Family-owned corporations are unique in terms of their information environment and strategic decision-making process. The link between analyst news and family corporate ownership is best examined in the context of the information disclosure and dissemination processes of the firm. However, despite the importance of obtaining efficient analyst forecasts and accurate management information for reliable estimates of intrinsic value as well as the particularities of family ownership, there is a lack of capital markets-based research on family firms (Prencipe et al., 2014), and a need to thoroughly investigate whether family control affects the way the markets value public information. Drawing from the agency theory and the socioemotional wealth preservation theory and using several family firm definitions and a large internationally diversified sample, we aim to fill this gap in the literature by examining the market informativeness of analyst news, leading to the first research question of the study: *Is the incremental information contained in analyst earnings news of family firms more value-relevant than the information contained in the news of non-family firms?*

To investigate the first research question, we compute the size-adjusted abnormal buy-and-hold stock returns *CARt+1* corresponding to the analysts' forecast horizon period for a firm-year and regress these returns on analyst news *ANEWSt+1* (the incremental information the analyst consensus earnings forecasts convey for the t+1 fiscal period performance over the realized performance of the fiscal period t). We include a family firm indicator using several family firm definitions from the NRG Metrics database (e.g., family is the largest voteholder or shareholder, at least one member of the family is on the Board of Directors etc.) and interact this indicator with analyst news. We control for several fundamental, market, and analyst variables. The empirical results document that the association between analyst news and stock returns is positive and statistically significant, and that analyst news of family firms is significantly more informative for the market than analyst news for non-family firms (analyst news for family firms is priced by the market by at least 50% more than the analyst news for non-family firms).

The differentiation in market informativeness of analyst news between non-family and family firms can be linked to several possible reasons. First, the financial analysts who issue earnings forecasts partly rely on management guidance whose sophistication may differ among family and non-family firms. Second, the experience and expertise of analysts covering family firms may differ from those covering non-family firms. Furthermore, it is likely that due to the unique nature of family firms (possibly lower institutional ownership, higher idiosyncratic volatility etc.) investors rely more heavily on analyst forecasts for those firms and tend to overweight analyst information released for them. Nevertheless, as the main research question is examined in the context of disclosure of information, we focus on the first link, leading to the second research question: *Is the differentiation between the market informativeness of analyst news between family and non-family firms affected by management disclosures?*

The disaggregation of analyst news into their management guidance – related and residual information components and regression of abnormal buy-and-hold returns on those components reveals that the increased market pricing of analyst news of the family firms mainly stems from the management guidance component, indicating that the provision of management guidance is a signal for the market to place more importance on the analyst news of the family firms that issue their own earnings projections. The finding indicates that the enhancement in value relevance of family firms' analyst news primarily derives from a superiority in the information content of the management guidance of those firms. This increased value may stem from the superior knowledge of family firms over envisaged investment plans and unrealized earnings that will be realized in the future.

The study then examines whether the increased market pricing of the management – related component of analyst news is supported by increased analyst forecasts' efficiency in those family firms who issue management guidance. That is, whether the analysts deem management guidance similarly relevant for their forecasting process in family and non-family firms. Drawing from agency theory, founding family ownership can affect the quality of the firm's information environment through two competing channels: the alignment (incentive) effect and the entrenchment effect (Wang, 2006). According to the alignment hypothesis, family ownership is positively related to financial reporting quality as the reduction of Type I agency conflicts between owners and managers (greater alignment of interests) tends to reduce managerial incentives to misreport. According to the opposing entrenchment hypothesis though, concentrated ownership beyond a given threshold increases the risk of wealth expropriation at the expense of minority shareholders through an increase of Type II agency conflict (Schulze, Lubatkin, & Dino, 2003). In the context of the more generalized studies of insider ownership, prior research has not established a significant association between insider ownership and analysts' earnings forecast accuracy (Byard et al., 2006; Garcia-Meca & Sanchez-Ballesta, 2011; Haw et al., 2010)[4]. The alignment

[4] Forst et al. (2019) aim to disentangle the contradictory effects of the alignment and entrenchment theories and find that disproportionate insider control is negatively associated with forecast accuracy and positively associated with forecast dispersion.

and entrenchment theories may affect the analyst information environment in an opposing way potentially leading to contradictory effects of management information on analyst efficiency. Thus, the study investigates its third research question: *Are the benefits of management guidance for analyst efficiency differentiated between family and non – family firms?*

To investigate the third research question the study empirically tests the incorporation of the information contained in future management earnings guidance releases and the most recent management surprises (management prediction errors) into analysts' earnings news. We regress *ANEWSt+1* on management news *MNEWSt+1* (the incremental information the management earnings guidance conveys for the t+1 fiscal period performance over the realized performance of the fiscal period t) and management surprises *MFEt* (difference between the actual reported earnings of firm i for fiscal year t and the mean earnings management guidance, deflated by price at the beginning of t). We include the family firm indicator and interact it with management news and surprises, and control for several fundamental, market, and analyst variables. The results indicate that financial analysts incorporate information in both family and non-family firms but under-weight management future earnings guidance in family firms, particularly following negative management guidance surprises.

As the financial analysts seem to under-react to management guidance, particularly following negative guidance surprises, the increased analyst news' pricing we have observed in the case of family firms may indicate that investors are aware of the superiority of information contained in the management guidance of family firms and over-price their analyst news to correct the analyst under-reaction tendency. The prior literature has found that family firms provide fewer earnings forecasts and conference calls but more earnings warnings (Ali et al, 2007; Chen, Chen, and Cheng, 2008). These findings are consistent with family owners having greater litigation and reputation cost concerns as well as a longer investment horizon, indicative of better monitoring of management and a lower information asymmetry between owners and managers in the family firm environment.

Furthermore, family firms may rely more on private communication channels rather than public disclosure (Boubaker and Labegorre, 2008). If the market expects that, then it would highly value disclosure by management in family firms, more than the value it would place on disclosure of non-family firms, rendering analyst news for those firms far more valuable for the capital markets, and leading investors to over-weight family firms' projections. Alternatively, family firms are likely more opaque than non-family firms (lower institutional ownership, higher idiosyncratic volatility, lower liquidity etc.). Thus, and as analysts are considered unbiased experts, the analysts' forecasts for those firms are more valuable for investors compared to those of non-family firms, and investors are likely to rely more heavily on analysts' expectations for those firms compared to non-family firms (Analyst reliance hypothesis).

According to the recent socioemotional wealth preservation theory, family-owners derive utility from the non-financial aspects of their firm; the family firms' need for socioemotional wealth preservation (affective endowment) can thus explain behavioral differences between family and non-family firms in managerial decision making (Kalm and Gomez-Meija, 2016) concerning processes such as firm strategy, corporate governance, stakeholder relations and business ventures. The literature acknowledges some contingency factors (family firm stage, firm size, and the presence of nonfamily shareholders) that may moderate the influence of socioemotional wealth preservation as a point of reference when making managerial decisions (e.g., Gomez-Mejia et al., 2011). This theory can support the argument that in family firms, where reputational and affective endowment concerns are more heightened, there is less concern for the disclosure of negative expectations and a more long-term view of firm value which is incorporated in the market pricing of analyst news issued for those firms.

Our study is the first to examine the value relevance of analyst news in family firms and aims to contribute to both the analyst forecasts valuation literature and the family firms' literature. The study makes several contributions to the related literature. First, we document that even though analyst news is informative and positively related to stock returns for both non-family and family firms, in the case of family firms the market pricing of analyst news is at least 1.5 times the pricing in non-family firms. Second, we find that the market particularly values information contained in analyst news for the family firms that provide management guidance. Disaggregating the analyst news into management guidance – related and residual information components, we find that the increased market informativeness in family firms does indeed derive from the management guidance – related component. Third, we empirically test the management guidance – related analyst efficiency and find that overall, analysts incorporate management forecasts and prior surprises when forming their expectations but at the same time under-react to management information from family firms, particularly in cases of negative prior management guidance surprises. We propose and discuss several other theoretical hypotheses that explain the findings and may further enhance the management guidance hypothesis.

The rest of the paper is organized as follows. The following section discusses the prior literature and sets forth the research hypotheses. Section 3 explains the research methodology while Section 4 offers a description of the sample. Section 5 presents the empirical findings and Section 6 offers the concluding remarks.

2. Prior Literature and Hypothesis Development

The literature on family firms is extensive. Although managerial, entrepreneurial, strategic, and international business aspects of family firms have been examined by the academic literature, capital market effects and financial reporting issues in family firms are relatively unexplored (Prencipe et al., 2014). Prencipe et al. (2014) identify and discuss four theoretical frameworks employed by the prior family literature, namely the agency theory, the stewardship theory, the resource-based theory, and the most recent socioemotional wealth preservation theory. In the accounting and finance literature, the discussion about family ownership has mainly centered around agency conflicts[5] predominantly focusing on the issues of earnings quality, corporate performance, accounting conservatism, voluntary disclosures, and corporate governance (e.g., Anderson and Reeb, 2003; Bennedsen et al., 2007; Maury, 2006; Villalonga and Amit, 2006). The literature, however, on analyst expectations in family firms is limited.

Analysts are important information intermediaries of the capital markets who produce informative reports (Lys and Sohn, 1990; Frankel et al., 2006) and affect the markets' direction. We argue that family ownership might have an impact on the informativeness of analysts' news. Founding family ownership could affect the demand and supply of disclosure quality in one of two competing ways: the alignment (incentive) effect and the entrenchment effect (e.g., Wang, 2006). According to the alignment hypothesis, family ownership is positively related to disclosure quality as the reduction of Type I agency conflicts between owners and managers tends to reduce managerial incentives to misreport. Family firms characterized by long-term orientation, higher

[5] Recent studies that apply the socioemotional wealth paradigm include Achleitner et al., 2014; Gomez- Mejia et al., 2014; Pazzaglia et al., 2013, and Tsao et al., 2019.

reputational concerns, lengthy tenures, closer monitoring of the management and lower market pressure are expected to face a lower risk of manipulation.

According to the opposing entrenchment hypothesis though, concentrated ownership increases the risk of wealth expropriation at the expense of minority shareholders through an increase of Type II agency conflict (Schulze et al., 2003). According to that hypothesis, family firms tend to withhold private information internally and to appoint family members on the board, potentially weakening its monitoring role and reducing reliability as perceived by the financial markets (Anderson & Reeb, 2003; Ajinkya, Bhojraj, & Sengupta, 2005).[6] Stockmans, Lybaert, and Voordeckers (2010) find that family firms that attach more importance to nonpecuniary goals and to the preservation of socioemotional wealth / legacy are more likely to engage in upward earnings management when firm performance is poor. Similar evidence is provided by Ding, Qu, and Zhuang (2011) for Chinese-listed family firms. They find that family firms employ less conservative accounting practices[7] and have higher discretionary accruals. Using a Taiwanese sample, Yang (2010) finds that earnings management increases with the level of insider ownership in family-controlled firms but decreases with the presence of a family CEO. Therefore, family owners' active involvement in firm management results in lower information asymmetry between themselves and managers (alignment hypothesis) but in higher information asymmetry between themselves and nonfamily owners (entrenchment hypothesis).

[6] It is worth mentioning that most of the prior literature distinguishes between family and nonfamily firms by looking at the degree of ownership concentration. Given that family control represents the most common form of concentrated ownership, the assumption is that high ownership concentration should be able to capture family ownership. However, this identification strategy might erroneously classify as family firms, other firms with major block holders such as governmental bodies, hedge funds, pension funds etc. (Cascino et al., 2010). Our literature review mainly focuses on more recent studies that employ a refined measure of family ownership.

[7] Chen, Chen, and Cheng (2014) find that conservatism increases with non-CEO family ownership, but not in family firms with founders serving as CEOs.

Ali et al. (2007) find that compared to non-family firms, family firms are more likely to have larger analyst following, lower dispersion of analysts' forecasts, smaller forecast errors and less volatile forecast revisions. These forecast characteristics might be associated with higher analysts' news informativeness. Family firms also provide more earnings warnings (Ali et al., 2007; Chen et al., 2008), a management information signal that might be incorporated in analysts' news, leading to a higher value relevance for family firms' analyst news. Besides, family firms may provide more frequent warnings but on average make fewer voluntary disclosures and tend to rely more on private communication channels (Boubaker and Labegorre, 2008). Lower levels of disclosure increase information asymmetry among market participants potentially leading them to place more weight on the analyst input to the market. The more concentrated and usually under-diversified equity holding of family firms, is largely associated with lower stock market liquidity, potentially leading to stronger market reaction to analysts' news, i.e., an over-reliance of the market on analysts covering family firms (analyst reliance hypothesis). These considerations lead to the first hypothesis:

H1: *The market informativeness of analysts' news of family firms is higher than that of non-family firms.*

The expectation of higher market informativeness of analyst news in family firms can be attributed to several possible reasons. First, the financial analysts who issue earnings forecasts for family firms may rely on management guidance of higher quality. That is, management guidance may be superior in family firms and thus leads to more informed analyst forecasts. As a result, the market reacts more strongly to incremental analyst news of family firms compared to non-family firms (Management guidance superiority hypothesis). Second, the analysts covering the family firms may be superior in terms of experience, expertise and track record to the ones covering non-family firms (Analyst expertise hypothesis). Third, the analysts covering family firms may possess different incentives that influence the sophistication of their forecasts, meaning that analysts may be driven by incentives to exert more effort when they cover family firms (Analyst effort hypothesis). Fourth, analyst output may become more valuable for family firms, as they are likely opaquer compared to non-family firms. Thus, their forecasts are more valuable than those for non-family firms and investors are likely to rely more heavily on analysts' expectations for those firms (Analyst reliance hypothesis). Opaqueness can be proxied using factors such as the presence or not of management guidance (no presence indicates opaquer environment), level of institutional ownership (low level ore opaque), idiosyncratic volatility (higher compared to total opaquer), size (smaller tends to be more opaque), analyst coverage (lower more opaque). Fifth, another explanation for analysts' news greater impact in family firms is that analysts do not really have more of an informational impact in family firms but rather that investors simply overreact to the analysts of family firms. Such overreaction might stem from the lower liquidity of family firms so that the price impact of trading in response to projections of analysts in family firms is heightened (Overreaction Hypothesis).

The study focuses on the management guidance of family firms as a source of superior market informativeness. Choi et al. (2011) find that future earnings response coefficients are greater for firms that provide management guidance and when forecasts are more frequent or precise, thus giving an indication that the market potentially places a very high value on the management earnings guidance issued by the firm. Hutton and Stocken (2021) find that the stock price response to management forecast news is increasing in prior forecast accuracy and that investors are more responsive to extreme good and bad news forecasts when a firm has an established forecasting record. Kim et al. (2021) suggest that managers consider analyst reputation in shaping their voluntary disclosure strategy and may strategically provide voluntary forecasts by taking into account the reputation of individual analysts following their firms.

Consistent with a better information environment for family firms, Ali et al. (2007) find that family firms have larger analyst following, more informative analysts' forecasts, and smaller bid-ask spreads. Chen, Chen, and Cheng (2008) provide evidence consistent with S&P 1500 family firms providing fewer earnings forecasts and conference calls, but more earnings warnings. However, family firms make fewer voluntary disclosures about their corporate governance practices, possibly in order to avoid interference from nonfamily shareholders. Wang (2006), using a sample of S&P 500 firms, finds that founding family ownership is associated with higher earnings quality (lower abnormal accruals, more informative earnings, and lower persistence of transitory loss components). Quite similarly, Tong (2008) reports that family firms are characterized by lower absolute discretionary accruals, fewer small positive earnings surprises, more informative earnings, and fewer earnings restatements. Similar evidence is provided by Cascino et al. (2010) and Prencipe, Bar-Yosef, Mazzola and Pozza (2011) for an Italian setting. Cascino et al. (2010) find that family firms convey financial information of higher quality compared to their nonfamily peers while Prencipe et al. (2011) provide evidence consistent with lower income smoothing for family firms, and particularly so when the CEO and the Chairman of the Board are members of the controlling family.

Drawing on the "family identity" dimension of socioemotional wealth theory, we can postulate that founding family ownership mitigates myopic behavior, in particular, myopic investment behavior as the founding families' desire to preserve reputation and ensure transgenerational sustainability leads to their unwillingness to engage in myopic investment behavior that might reduce long-term firm value.[8] In this line of thought, Tsao et al. (2019) find that founding family ownership mitigates myopic R&D investment behavior. This evidence is consistent with Achleitner et al. (2014) who argue for a substitutive association between real earnings management and accrual earnings management in family firms as they find that family firms engage less in real earnings management but more in earnings-decreasing accrual earnings management. The above considerations lead to H2:

H2*: The superior market informativeness of analyst news of family firms mainly derives from the management information disclosure of those firms.*

Financial analysts are market agents that can exhibit behavioral biases (De Bondt and Thaler, 1990) such as overconfidence and anchoring. However, they are expected to efficiently incorporate all the information publicly available to them when forecasting company earnings for the following reasons. First, their knowledge, experience and expertise enable them to assess and efficiently incorporate the implications of management new guidance and prior surprises for future corporate performance. Analysts possess a high ability to conduct in-depth financial statement analysis that enables them to correctly estimate the value-relevance and persistence of accounting fundamentals (Lev and Thiagarajan, 1993; Gu and Chen, 2004). Second, analysts are perceived as more sophisticated than the average investor not only due to their expertise but also due to their firms offering them access to high quality research resources. As their main professional objective is to provide buy-sell-hold recommendations based on their view on future company performance and generate supporting reports, being rational agents, financial analysts are expected to be aiming for accuracy in their company profitability estimates and strive to avoid systematic inefficiencies.

[8] Consistent with the importance of reputational concerns, Chen et al. (2010) find that publicly listed family firms exhibit less tax aggression.

Analysts' unbiasedness has been corroborated by prior studies' findings that analysts value highly expanded voluntary disclosure (Healy et al., 1999), and examine managers' reputation and prior accuracy (Williams, 1996) when they incorporate management releases information in their earnings forecasts. These considerations lead to H3:

H3: *Financial analysts' earnings news is efficient with respect to the incorporation of management news and surprises.*

The management guidance – related analyst forecast efficiency in family firms is captured by the inability of surprises contained in current management forecast errors (or management news) to systematically predict variation in the future analyst forecast errors.

3. Research Methodology

3.1 The association between analyst news and stock returns in family firms

To investigate the market informativeness of analyst news in family firms and non-family firms (related to H1) we estimate Model 1 using pooled ordinary least squares (OLS) regressions. The regressions control for country, industry, and year fixed effects. The t-statistics are computed with standard errors clustered at the firm level.

$$CAR_{t+1,i} = \beta_0 + \beta_1 FFDEF_{t,i} + \beta_2 ANEWS_{t+1,i} + \beta_3 ANEWS_{t+1,i} \times FFDEF_{t,i} + CONTROLS + COUNTRYFE + INDUSTRYFE + YEARFE + \varepsilon \quad (1)$$

ANEWSt+1 is the analyst news for firm i and fiscal year t+1, i.e., the incremental information the analyst consensus earnings forecasts convey for the t+1 fiscal period performance over the realized performance of the fiscal period t. The analyst consensus is the mean of individual analysts' earnings forecasts that are issued throughout the period starting from the announcement date of actual results of t to the announcement date of actual results of t+1. *ANEWSt+1* is computed as the difference between the analyst consensus forecast for the earnings of t+1 for firm i (*AFt+1*) and the realized (actual) earnings of the prior period t (*CEARN*). *FFDEF* is an indicator variable equal to 1 for family firms and 0 otherwise using several definitions retrieved from NRG Metrics database. The main definitions used are presented below. We verify the results using alternative definitions.

Family Firm Definition	**Description**	**Computation**
FFDEF1	The family is the largest voteholder.	Equals 1 if the Family ownership stake is the largest voteholder, 0 otherwise.
FFDEF2	The family is the largest shareholder.	Equals 1 if the Family ownership stake is the largest shareholder, 0 otherwise.
FFDEF3	The family is the largest shareholder and has at least 20% of the votes.	Equals 1 if the Family ownership stake is more than 20% of the votes, 0 otherwise.
FFDEF4	The family is the largest voteholder and has at least one member on the Board of Directors.	Equals 1 if the Family stake is the largest voteholder and at least one member BoD, 0 otherwise.

CARt+1 are the size-adjusted abnormal stock returns corresponding to the analysts' forecast horizon period. To measure abnormal returns and adjust for size effects, we follow the matching return approach to a benchmark portfolio based on market capitalization. The abnormal return (*CARt+1*) for a firm i of the sample is the difference between the raw return (*RETt+1*) and the matching return of the benchmark portfolio (*BRETt+1*) to which the firm belongs. The raw stock returns (*RETt+1*) are constructed with the compounding of daily total index returns for firm-year t+1,i using a buy–hold strategy for the period from the announcement date of actual financial results of firm i and year t to the announcement date of actual financial results of firm i and year t+1 (corresponding to the analysts' forecast horizon). Each year, the sample firms are sorted into 10 decile portfolios by market capitalization (MV). This procedure results in 10 benchmark portfolios. The matching return (*BRETt+1*) is the weighted average *RETt+1* of all firms in each benchmark portfolio (weighted by market capitalization). The abnormal return (*CARt+1*) for a firm is the difference between the raw return (*RETt+1*) and the matching return *BRETt+1* of the benchmark portfolio to which the firm belongs. The results are similar if we use raw stock returns (*RETt+1)* in the Model. The model controls for several market, fundamental and analyst variables (*SIZE, B/M, BETA, GROSSPROFIT, SGA, DEPAMORT, INTEREST, TAXES, ANALYST, ADISPERSION*). All the control variables are defined in the Appendix.

In line with prior research documenting analyst earnings forecasts are positive signals for the capital markets, we expect estimated regression coefficient β2 to be statistically significant and positive. In line with H1 that predicts family firms' analyst news market pricing will be higher than that for non-family firms, we expect estimated regression coefficient β3 to also be statistically significant and positive. To investigate whether firms that make a disclosure of their earnings expectations differ in their market pricing of analyst news, we segment the sample into two sub-samples based on provision of guidance for t+1 (*Guidance* and *No Guidance* sub-samples) and estimate Model 1 accordingly.

3.2 Management guidance and the association between analyst news and stock returns

We next investigate whether the market informativeness of analyst news stemming from the information contained in management guidance issued by family firms (news for t+1 and errors/surprises of t) is indeed one primary driver of the superiority of analyst news value-relevance in family firms compared to non-family firms (H2).

For this reason, we regress analyst news *ANEWSt+1* on management news *MNEWSt+1* and management surprises *MFEt* (first stage regression, Model 2).

$$ANEWS_{t+1,i} = \beta_0 + \beta_1\ MNEWS_{t+1,i} + \beta_2\ MFE_{t,i} + COUNTRYFE + INDUSTRYFE + YEARFE + \varepsilon \quad (2)$$

Where *MNEWSt+1* is the management news for firm i and fiscal year t+1, i.e., the incremental information the management earnings guidance conveys for the t+1 fiscal period performance over the realized performance of the fiscal period t. $MFE_{t,i}$ is the current period (t) management guidance forecast error and is computed as the difference between the actual reported earnings of t and the mean earnings management guidance issued by firm i for fiscal year t (deflated by price at the beginning of t). $ANEWS_{t+1,i}$ as previously defined.

We then substitute *ANEWSt+1* in the stock returns model (Model 1) with the fitted (predicted) values and the residual values resulting from this first stage regression (second stage regression, Model 3).

$$CAR_{t+1,i} = \beta_0 + \beta_1 FFDEF_{t,i} + \beta_2 ANEWSFITTED_{t+1,i} + \beta_3 ANEWSFITTED_{t+1,i} \times FFDEF_{t,i} + \beta_4 ANEWSRES_{t+1,i} + \beta_5 ANEWSRES_{t+1,i} \times FFDEF_{t,i} + CONTROLS + COUNTRYFE + INDUSTRYFE + YEARFE + \varepsilon \quad (3)$$

The fitted values *ANEWSFITTED* represent the analyst news for the performance of firm i in the fiscal period t+1 whose value-relevance derives from the information contained in both the management news for the t+1 period and the prior period (t) management forecast errors (i.e., the surprises). The residual values *ANEWSRES* represent the analyst news for the performance of firm i in the fiscal period t+1 whose value-relevance derives from the information contained in sources other than (orthogonal to) prior and recent management guidance, i.e., residual sources of information. In line with H2 we expect the estimated coefficient of the linear combination [β2+β3] to be significantly larger in magnitude than [β4 + β5].

3.3 The incorporation of management earnings guidance into analyst forecasts

We finally investigate the incorporation of management future earnings guidance and recent guidance surprises into analysts' earnings news (H3).

$ANEWS_{t+1,i} = \beta_0 + \beta_1\ FFDEF_{t,i} + \beta_2\ MNEWS_{t+1,i} + \beta_3\ MNEWS_{t+1,i} \times FFDEF_{t,i} + \beta_4\ MFE_{t,i} + \beta_5\ MFE_{t,i} \times FFDEF_{t,i} + CONTROLS + COUNTRYFE + INDUSTRYFE + YEARFE + \varepsilon$ (4)

$AFE_{t+1,i} = \beta_0 + \beta_1\ FFDEF_{t,i} + \beta_2\ MNEWS_{t+1,i} + \beta_3\ MNEWS_{t+1,i} \times FFDEF_{t,i} + \beta_4\ MFE_{t,i} + \beta_5\ MFE_{t,i} \times FFDEF_{t,i} + CONTROLS + COUNTRYFE + INDUSTRYFE + YEARFE + \varepsilon$ (5)

$AFE_{t+1,i}$ is the analyst forecast error (analyst surprise) for t+1 and is computed as the difference between the actual reported earnings of t+1 and the consensus analyst earnings forecast for firm i and fiscal year t+1 (deflated by price at the beginning of t). The rest of the variables as previously defined. As per H3 we expect the analysts to be unbiased in their incorporation of management guidance - related news (*MNEWS* and *MFE*) in both non-family and family firms. As a result, estimated regression coefficients $[\beta_2 – \beta_5]$ in Model 5 are expected to be non-significant. We segment the sample into firm-years with positive management guidance surprises (MFE > 0) and negative management guidance surprises (MFE < 0) to examine whether the results are differentiated based on the direction of the management prediction error.

For Model 5 the below table summarizes the potential coefficient estimates on management news and surprises (*MNEWSt+1* and *MFEt*) and interpretation of analyst efficiency.

Analyst Response (*AFE*)	**Positive management news (*MNEWS* > 0)**	**Negative management news (*MNEWS* < 0)**	**Positive management surprises (*MFE* > 0)**	**Negative management surprises (*MFE* < 0)**
AFE = (actual – forecast)				
Underreact to News	$\beta_2 > 0$ (analysts are too pessimistic)	$\beta_2 > 0$ (analysts are too optimistic)	$\beta_4 > 0$ (analysts are too pessimistic)	$\beta_4 > 0$ (analysts are too optimistic)
Overreact to News	$\beta_2 < 0$ (analysts are too optimistic)	$\beta_2 < 0$ (analysts are too pessimistic)	$\beta_4 < 0$ (analysts are too optimistic)	$\beta_4 < 0$ (analysts are too pessimistic)

4. Sample Description

We derive our initial sample from NRG Metrics. NRG Metrics is a unique database that provides a wide range of refined measures of family ownership sourced by publicly available documents such as annual reports, corporate governance reports, firm presentations, SEC filings, and press releases. NRG Metrics is created by a team of market professionals and academic researchers and provides corporate governance, compensation, ownership, audit, and CSR data for a large number of internationally listed firms. Refinitiv Eikon (previously Thomson Reuters) is used as a source for the raw buy-and-hold returns used to construct the abnormal returns, for analysts' forecasts, and other analyst characteristics. Refinitiv Eikon and Capital IQ are used to retrieve management earnings guidance. For firm fundamentals and market variables the study uses Eikon and Datastream Worldscope. Table 1 describes the elimination process so as to retain firm-years for which we can obtain data on the necessary variables. The initial sample with family ownership data from NRG database includes 49,649 firm-years from 7,282 distinct international listed firms. After retaining firm-years with analyst news, abnormal stock returns and control variables availability we result with a sample of 26,044 observations from 4,014 distinct international firms.

Management forecasts are a part of the firm's information environment and potentially reveal managers' private information that is available to, and that should be taken into consideration by, financial analysts. In this direction, we obtain all available management earnings forecasts issued in the period studied (indicatively, we have 10,758 management news vs 40,980 analyst news observations). The management earnings forecasts can be in the form of a point estimate or range estimate. In the case of a range the midpoint of the range is computed. For the management guidance superiority hypothesis, we additionally need to have management earnings guidance for t+1 which leads to 6,664 observations from 1,152 distinct firms. Table 1 Panel A presents the elimination (observation retainment) process and Panel B the per country observations and distinct firms for the stock return (main) regressions.

[Insert Table 1 about here]

All continuous firm variables are winsorized at the top and bottom one percent. The analyst news, management news and errors are deflated by closing share price at the beginning of the period and winsorized at 1 percent at both sides. All the variables are defined in the Appendix.

Table 2 presents some distributional descriptive statistics for the variables of the study. In line with prior literature, analyst forecast errors are negative on average (left skewed distribution) denoting over-optimistic forecasts on average for both family and non-family firms. For any of the four family firm definitions used, the analysts are less accurate (more biased) for family firms since the signed analyst forecast error for family firms is more negative than that of non-family firms with the difference in the means being of statistical significance (at the 1 percent level). Abnormal returns are on average higher for family firms (statistical tests of non-zero mean differences across the two subsamples are rejected, 5 percent level).

[Insert Table 2 about here]

5. Empirical Results

5.1 The association between analyst news and stock returns in family firms

Table 3 presents the results of the pooled OLS regression of Model 1. The regression controls for country, industry, and year fixed effects and t-statistics are based on standard errors clustered at the firm level. In line with prior literature that has documented that the stock market moves in the direction of analysts' forecasts (Clement and Tse, 2003; Frankel et al., 2006; Givoly and Lakonishok, 1979)[9], in the examination of the entire sample analyst news *ANEWSt+1* is positively and significantly associated with stock returns *CARt+1* (Table 3 regression results (1), estimated regression coefficient *_bANEWS* is equal to 1.048, statistically significant at the 1 percent level).

In line with expectations of H1, the value-relevance of analyst news in family firms is significantly higher than that of non-family firms (Table 3, regression results (2), estimated regression coefficient of the family interaction term *ANEWSt+1× FFDEF* is equal to 0.583, statistically significant at the 1 percent level). The results hold for various family firm definitions (Table 3, regression results (3) – (5)). Therefore, analyst news is value-relevant for both non-family and family firms, but analyst news of family firms is priced by almost 50 percent higher than the analyst news of non-family firms. The results are robust to alternative measurements of stock returns (employment of raw stock returns, alternative construction methods for the benchmark portfolios etc.).

The significantly higher market informativeness of analyst news in family firms can be attributed to several possible reasons. First, the financial analysts who issue earnings forecasts for family firms may rely on management guidance of higher quality. That is, management guidance may be superior in family firms and thus leads to more informed analyst forecasts. As a result, the market reacts more strongly to incremental analyst news of family firms compared to non-family firms (Management guidance superiority hypothesis). Second, the analysts covering the family firms may be superior in terms of experience, expertise and track record (Analyst expertise hypothesis). Third, the analysts covering family firms may possess different incentives that

[9] Earnings forecasts can also proxy for ex ante risk estimates. Favorable disclosures of earnings by management, financial analysts, and the press have been associated with a decline in the firm's perceived risk (Kothari et al., 2009).

influence the efficiency / sophistication of their forecasts, meaning that analysts may be driven by incentives to exert more effort when they cover family firms (Analyst effort hypothesis). Fourth, analyst output may become more valuable for family firms, as they are likely opaquer compared to non-family firms. Thus, their forecasts are more valuable than those for non-family firms and investors are likely to rely more heavily on analysts' expectations for those firms (Analyst reliance hypothesis). Fifth, another explanation for analysts' seemingly greater impact in family firms is that analysts do not really have more of an informational / meaningful impact in family firms but rather that investors simply overreact to the analyst information of family firms. Such overreaction might stem from the lower liquidity of family firms that constrains arbitrageurs, so investors react more strongly to analyst news (Overreaction Hypothesis).

[Insert Table 3 about here]

We mainly focus on the Management guidance superiority hypothesis. We segment the sample into two sub-samples based on the presence of management guidance for t+1,i. We use a Hausman test - Chow test for the structural stability of the coefficients across the two sub-samples (*Guidance* and *No Guidance*). Table 4 presents the results. The positive and significant association of analyst news *ANEWSt+1* with the abnormal stock returns (*CARt+1*) is retained for both sub-samples, and for both non-family and family firms. The estimated coefficients of analyst news' market informativeness of non-family firms *(_bANEWSt+1)* and for family firms *(_bANEWSt+1 + _b[ANEWSt+1×FFDEF])* are positive and highly statistically significant at the 1 percent level for all specifications (all family firm definitions). The results (Table 4) show that for the entire sample comprised of both non-family and family firms, analyst news *ANEWSt+1* has a higher association with stock returns for the firms that have also issued management earnings guidance for the reference fiscal period (t+1) compared to the firms that have not issued management guidance. The difference between the coefficients of the two sub-samples (*Guidance* and *No Guidance*) *_bANEWSt+1* is not statistically significant (Hausman test p-value of 0.2423, Table 2 regressions results (1) and (2)).

The Hausman tests performed for the regressions that take into consideration the family firm indicator variables *FFDEF*, show that the estimated coefficients of analyst news' market informativeness of non-family firms *(_bANEWSt+1)* do not differ significantly among the *Guidance* and *No Guidance* sub-samples for any of the family firm definitions. The estimated coefficient of analyst news' market informativeness for family firms however *(_bANEWSt+1 + _b[ANEWSt+1×FFDEF])* differs significantly among the *Guidance* and *No Guidance* sub-samples. This finding supports the hypothesis that the family firms' analyst news market informativeness is higher than that observed for non-family firms and that a primary driver for that higher value-relevance is the issuance of management guidance by those firms. Therefore, the results suggest that first, the market places a higher value on the analyst news of family firms vs non family firms, and second that the analyst forecasts of family firms that issue management earnings guidance have an even higher market impact than the family firms that do not issue management guidance. Thus, investors view analyst news of family firms as highly informative and further increase the pricing of analyst news for firms that also issue management guidance for the reference fiscal period (t+1).

[Insert Table 4 about here]

5.2. Management guidance and the association between analyst news and stock returns in family firms

Model 3 investigates whether the market informativeness of analyst news stemming from the information contained in management guidance issued by family firms (news for t+1 and errors/surprises of t) is indeed one primary driver of the superiority of analyst news' value-relevance in family firms compared to non-family firms (H2). We regress *ANEWS* on *MNEWS* and *MFE* and substitute *ANEWS* in the stock returns model with the fitted and residual values of the estimated regression. The fitted values *ANEWSFITTED* represent the analyst news for the performance of firm i in the fiscal period t+1 whose value-relevance derives from the information contained in both the management news for the t+1 period and the prior period (t) management forecast errors (i.e., the surprises). The residual values *ANEWSRES* represent the analyst news for the performance of firm i in the fiscal period t+1 whose value-relevance derives from information sources orthogonal to management guidance (residual sources of information).

The results are presented in Table 5. The results document that the value-relevance of analyst news stems from both management guidance (*ANEWSFITTED*) and other sources (*ANEWSRES*). The increased value-relevance of analyst news issued for family firms compared to those issued for non-family firms does indeed primarily derive from the information contained in management guidance that is available to the analysts during the forecast period (management news for firm performance of t+1 and management guidance surprises, i.e., errors for the performance of t). The results hold irrespective of the family firm definition (Table 5, estimated regression coefficient of the interaction term between *ANEWSFITTED* and the *FFDEF* dummy *_b. ANEWSFITTED* × *FFDEF* positive and statistically significant at the 1 percent level for every family firm definition).

[Insert Table 5 about here]

Audretsch et al. (2013) suggest that family monitoring can be the missing link in the ownership, control, and performance debate on family firms (also see Demsetz and Lehn, 1985). The more informative disclosure of family firms may be driven by the less severe Type I agency problems, i.e., better monitoring of management (Wang, 2006; Ali et al., 2007) counter-balancing the more severe Type II agency problems.

The superiority in the market informativeness of management guidance for family firms may indicate that management forecast errors *MFE* can contain profit that may not have been realized in the reference period (the period related to the management forecast) but may be related to business plans and projects that will be finalized in the short-term future (next years). As a result, the management guidance is a forward-looking measure that represents "unrealized revenues or expenses a manager originally anticipated to occur in the forecast period but that ultimately occur in subsequent periods" (Kimbrough et al., 2021). The family firm setting is a setting where we can expect management may possess more complete forward-looking information so the incremental news potentially contained in management forecasts of family firms may be more informative for expected corporate performance compared to that in non-family firms (also see Bozanic et al., 2018).

5.3. The association between analyst news and management news in family firms

Tables 6-8 present the results associated with the estimation of Models 4 and 5 that investigate management guidance – related analyst efficiency (H3). The association between analyst news for t+1 and management news for t+1 (as well as management surprises for t) is positive and statistically significant at the 1 percent level. Therefore, the empirical findings suggest that the analysts' forecasts for t+1 increase when the management expects an increase of earnings in t+1 compared to the prior fiscal year, and that positive (negative) management guidance surprises are accompanied by upward (downward) adjustments of t+1 earnings forecasts by the analysts.

Overall, irrespective of the direction of the management surprise of t (Table 6), when they forecast earnings for t+1, financial analysts seem to place a lower weight on the new management guidance news of family firms compared to those of non-family firms. Coupled with the findings of Tables 4 and 5, these findings may suggest that the market is aware of a possible under-reaction of analysts towards management projections coming from family firms and thus places greater weight on the management guidance – related component of analyst news (i.e., the market over weights to correct the analysts' under-reaction tendency).

[Insert Table 6 about here]

Table 7 presents the results of the regression of analyst news (for t+1) on management news (for t+1) and surprises (with respect to prior expectations for t) for both positive (*MFE* > 0) and negative (*MFE* < 0) management surprises. In the case of a positive management guidance surprise (*MFE* > 0), i.e., the realized earnings of t are larger than projected by management, the analysts over-weight the new management projections for t+1 (*MNEWS*) as well as the surprise itself (*MFE* > 0) in family firms compared to their behavior in non-family firms. In the case of a negative management guidance surprise (*MFE* < 0), i.e., the realized earnings of t are lower than projected by management, the analysts under-weight the new management projections for t+1 (*MNEWS*). The larger the most recent negative management guidance surprise (in absolute terms) the stronger the downward adjustment in analyst earnings news. The results are indicative of analyst exuberance in periods following positive management guidance surprises and conservatism in periods following negative surprises.

For non-family firms, in the case of positive management surprises, the analysts take into consideration both the new information (*MNEWS*) as well as the surprise (*MFE*) but underweight it compared to the family case. For the negative management surprises, the analysts of non-family firms do not incorporate the negative surprise in their forecasts of future performance *ANEWS* (as if they consider the negative surprise a random event, completely “unintentional” on the part of the non-family firm), and they incorporate the new information (*MNEWS*) placing a higher weight on it, higher on average from the weight they would place in the case of positive news.

[Insert Table 7 about here]

Table 8 presents the results of the regressions of Model 5 of analyst forecast errors on management guidance. The results indicate that a systematic analyst inefficiency (under-reaction) is observed following negative management guidance surprises (the estimated family firm coefficient [$MFE + MFE \times FFDEF$] is positive and statistically significant at the 5 percent level). Therefore, following a negative management guidance surprise (t), analysts underweight the informativeness of future earnings guidance (t+1).

[Insert Table 8 about here]

6. Conclusion

Analyzing an international sample of listed firms during 2007-2019, the study examines the value-relevance of financial analyst news issued for family-owned corporations compared to non-family corporations. The study contributes to both the family firms’ literature as well as the analyst news’ market relevance literature and is the first to offer empirical evidence on the value relevance of analyst expectations in family firms. Alternative theoretical reasons to support the increased value relevance of analyst news for family firms such as the management guidance superiority hypothesis, the analyst effort / incentives hypothesis, and the analyst reliance hypothesis are proposed.

The empirical findings document that the market reacts more strongly to analyst news of family firms, with the market pricing of analyst news (assessed using abnormal buy-and-hold returns computed during the analyst forecast horizon) being at least 1.5 times the market pricing of analyst news for non-family firms. Furthermore, the value relevance of analyst news for the family firms whose management has also issued earnings projections for the fiscal period of reference is further enhanced. The management guidance issued by family firms can be particularly valuable for investors. This value may stem from the superior knowledge of family firms over envisaged investment plans and unrealized earnings that will be realized in the future. The finding indicates that the enhancement in value relevance of family firms' analyst news primarily derives from a superiority in the information content of the management guidance of those firms (management guidance superiority hypothesis). Disaggregating analyst news into a management guidance - related component and residual information component empirically supports this conjecture.

The close examination of analyst news and their association with management guidance information (both recent surprises as well as new projections) reveals that analysts covering family firms are inclined to under-react to management guidance, particularly following a negative surprise (over-optimistic guidance) by the management. Coupled with the market informativeness tests, this finding may signify that investors highly price management guidance of family firms and are aware of the analyst skepticism following negative guidance surprises for those firms, thus over-pricing the analyst news of the family firms who also issue earnings guidance as a form of market correction.

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Appendix. Variable Definitions

Variable	Definition / Source
Main variables of interest	
FFDEF	An indicator variable = 1 for family firms and 0 otherwise. *FFDEF1*: defines a firm as family firm when the family ownership represents the largest voteholder. *FFDEF2*: defines a firm as family firm when the family ownership represents the largest shareholder. *FFDEF3*: defines a firm as family firm when the family ownership stake is more than 20% of the votes. *FFDEF4*: defines a firm as family firm when the family stake is the largest voteholder and at least one member of the family is on the Board of Directors. Source: NRG database
CARt+1	Size-adjusted abnormal buy-and-hold stock returns corresponding to the analysts' forecast horizon period for fiscal period t+1 (from actual results t announcement date to actual results t+1 announcement date). Source: Eikon Refinitiv
CARt+1ann	Size-adjusted abnormal buy-and-hold stock returns corresponding to a window of 3 days before and after the actual results t+1 announcement date. Source: Eikon Refinitiv
ANEWSt+1	Analyst News (for t+1) = *AFt+1 – CEARN*
AFt+1	The mean consensus analyst forecast of earnings for firm i and fiscal year t+1 $EPSMean_{t+1,i}$. Deflated by closing share price at the beginning of t. Source: Eikon Refinitiv
CEARN	Actual reported earnings per share for firm i and fiscal year t. Deflated by share price at the beginning of t. Source: Eikon Refinitiv
MNEWSt+1	Management Guidance News (for t+1) = *MFt+1 – CEARN*

MFt+1	Mean earnings per share guidance issued by the management of firm i for fiscal year t+1. Deflated by share price at the beginning of t. Alternatively, if EPS guidance is not available we use net income guidance standardized by the weighted average of diluted number of shares (deflated by price). Source: Eikon Refinitiv, Capital IQ
MFEt	Management earnings forecast error for period t = *CEARN – MeanEPSGt* / *price* where *MeanEPSGt* is the average earnings forecast issued for firm i and fiscal year t by the management of firm i. Source: Eikon Refinitiv, Capital IQ
ANEWSFITTED	The fitted component from the following regression: $ANEWS_{t+1} = \beta_0 + \beta_1\, MNEWS_{t+1} + \beta_2\, MFE_t$
ANEWSRES	The residual component from the following regression: $ANEWS_{t+1} = \beta_0 + \beta_1\, MNEWS_{t+1} + \beta_2\, MFE_t$
AFEt+1	The future analyst earnings forecast error (t+1) $= (EPSActual_{t+1,i} – EPSMean_{t+1,i}) / Price_{t,i}$ where *EPSActual* is the actual earnings per share for firm i and fiscal year t+1 as reported in Eikon and $EPSMean_{t+1,i}$ as previously defined. Source: Eikon Refinitiv
MFEt+1	Management earnings forecast error for period t+1 $= (EPSActual_{t+1,i} – MF_{t+1,i}) / Price_{t,i}$ where $MF_{t+1,i}$ is the management earnings forecast issued for firm i and fiscal year t+1. Deflated by price at the beginning of t. Source: Eikon Refinitiv, Capital IQ
Control variables	
SIZE	The natural logarithm of the market value of equity of firm i at t (size factor). Source: Eikon Refinitiv
B/M	Book value/market value of equity ratio of firm i at t (value factor). Source: Eikon Refinitiv

BETA	The estimated slope coefficient b of the regression: $CompanyReturn = \alpha + \beta * MarketReturn$ Estimated for the 60 months prior to the announcement date of actual financial results of t. Source: Eikon Refinitiv
ANALYST	$ln(analysts)_{t,i}$, where *analysts* = the number of analysts following / covering firm i in fiscal year t. Source: Eikon Refinitiv
ADISPERSION	The standard deviation of individual analysts' forecasts of earnings per share included in the consensus for firm i and fiscal year t. Source: Eikon Refinitiv
GROSSPROFIT	Firm i's Gross Profit of t. Deflated by total assets at t-1. Source: Datastream Worldscope
SGA	Firm i's Selling, General and Administrative expenses of t. Deflated by total assets at t-1. Source: Datastream Worldscope
DEPAMORT	Firm i's Depreciation, Depletion and Amortization of t. Deflated by total assets at t-1. Source: Datastream Worldscope
INTEREST	Firm i's interest expense for year t. Deflated by total assets at t-1. Source: Datastream Worldscope
TAXES	Firm i's tax expense for year t. Deflated by total assets at t-1. Source: Datastream Worldscope

Table 1. Sample Selection

Panel A. Entire Sample	**Firm-Years**	**Distinct Firms**
Initial firm-years with NRG data on family ownership definitions and characteristics	49,649	7,282
Retain: firm-years with available earnings forecasts for t+1	42,555	6,443
Retain: firm-years with available earnings realizations for t to compute *ANEWS*	41,860	6,335
Retain: firm-years with available data on beginning of period share price (deflator)	40,980	6,157
Retain: firm-years with no missing abnormal buy-and-hold returns	38,998	5,978
Retain: firm-years with data on control variables (main regressions)	26,044	4,014
Retain: firm-years with management earnings guidance data (additional regressions)	6,664	1,152
Panel B. Per Country Sample (Stock Return Regressions)		
Country	**Firm-Years**	**Distinct Firms**
Australia	695	136
Austria	277	25
Belgium	305	34
Brazil	333	40
Canada	1,503	235
Croatia	47	5
Czech	24	2
Denmark	279	38
Finland	390	59
France	787	119
Germany	1,886	216
Greece	233	33
Hong Kong	518	63
Hungary	22	3
India	384	72
Indonesia	266	42
Ireland	103	15
Israel	67	10
Italy	859	112
Japan	1,763	177
Malaysia	148	28
Mexico	108	17
Netherlands	375	50
New Zealand	55	12
Norway	398	73
Philippines	184	27
Poland	168	20
Portugal	37	5
Qatar	50	8
Romania	17	3
Russia	293	40
Singapore	215	28
Slovenia	23	3
South Africa	173	20
South Korea	165	22
Spain	300	46
Sweden	877	132
Switzerland	762	102
Taiwan	117	21
Thailand	268	48
Turkey	332	39
United Kingdom	1,754	227
USA	8,484	1,607
Grand Total	**26,044**	**4,014**

Table 2. Distributional Descriptive Statistics

	Entire Sample			Family Firms (1)			Non-family firms (2)			(2)-(1)	
Variable	**Obs**	**Mean**	**SD**	**Obs**	**Mean**	**SD**	**Obs**	**Mean**	**SD**	**Δ(Means)**	**T-test**
FFDEF1	*=1 when family ownership represents the largest voteholder.*										
Main variables											
ANEWSt+1	26,044	0.0061	0.0707	4,778	0.0061	0.0687	21,266	0.0061	0.0712	0.0061	0.0061
CARt+1	26,044	0.0155	0.4017	4,778	0.0265	0.4189	21,266	0.0131	0.3977	-0.0134	-2.0880**
AFEt+1	26,044	-0.0021	0.0257	4,778	-0.0030	0.0275	21,266	-0.0018	0.0253	0.0012	2.9135***
Control variables											
SIZE	26,044	22.4975	2.6147	4,778	22.1457	2.6130	21,266	22.5765	2.6086	0.4308	10.3126***
B/M	26,044	0.6470	0.8344	4,778	0.6484	0.9209	21,266	0.6467	0.8138	-0.0017	-0.1238
BETA	26,044	1.0556	0.4679	4,778	1.0183	0.4367	21,266	1.0640	0.4743	0.0457	6.1044***
GROSSPROFIT	26,044	0.3479	0.3875	4,778	0.3768	0.3989	21,266	0.3414	0.3846	-0.0354	-5.7146***
SGA	26,044	0.2566	0.3552	4,778	0.2808	0.3717	21,266	0.2511	0.3511	-0.0297	-5.2260***
DEPAMORT	26,044	0.0669	0.0908	4,778	0.0640	0.0924	21,266	0.0676	0.0904	0.0036	2.4828***
INTEREST	26,044	0.0232	0.0479	4,778	0.0254	0.0564	21,266	0.0226	0.0457	-0.0027	-3.5735***
TAXES	26,044	0.0199	0.0302	4,778	0.0216	0.0316	21,266	0.0196	0.0298	-0.0020	-4.2184***
ANALYST	26,044	2.2216	0.8720	4,778	2.1330	0.9469	21,266	2.2415	0.8530	0.1086	7.7851***
ADISPERSION	26,044	1.5546	6.0720	4,778	0.9565	4.8873	21,266	1.6890	6.2999	0.7325	7.5429***
FFDEF2	*=1 when the family ownership represents the largest shareholder.*										
ANEWSt+1	26,044	0.0061	0.0707	4,693	0.0057	0.0685	21,351	0.0062	0.0712	0.0005	0.4748
CARt+1	26,044	0.0155	0.4017	4,693	0.0247	0.4187	21,351	0.0135	0.3978	-0.0111	-1.7194**
AFEt+1	26,044	-0.0021	0.0257	4,693	-0.0031	0.0277	21,351	-0.0019	0.0253	0.0012	2.8920***
FFDEF3	*=1 when the family ownership stake is more than 20% of the votes.*										
ANEWSt+1	26,044	0.0061	0.0707	3,591	0.0058	0.0675	22,453	0.0062	0.0713	0.0004	0.3268
CARt+1	26,044	0.0155	0.4017	3,591	0.0279	0.4186	22,453	0.0136	0.3989	-0.0144	-1.9924**
AFEt+1	26,044	-0.0021	0.0257	3,591	-0.0033	0.0278	22,453	-0.0019	0.0254	0.0015	3.1833***
FFDEF4	*=1 when the family is the largest voteholder and at least one member of the family is on the BoD*										
ANEWSt+1	26,044	0.0061	0.0707	4,175	0.0054	0.0706	21,869	0.0063	0.0708	0.0009	0.7693
CARt+1	26,044	0.0155	0.4017	4,175	0.0274	0.4245	21,869	0.0133	0.3972	-0.0141	-2.0734**
AFEt+1	26,044	-0.0021	0.0257	4,175	-0.0030	0.0286	21,869	-0.0019	0.0252	0.0011	2.5410***

Table Notes:
This table presents distributional descriptive statistics for the variables of the study along with the t-statistics of the t-tests of difference of means across the non-family and family sub-samples. For the main variables of interest (*ANEWSt+1*, *CARt+1*, *AFEt+1*) we present the statistics for every firm definition. * p<0.10, ** p<0.05, *** p<0.010.

TABLE 3. Market informativeness of analyst news in family firms.

	(1)	(2)	(3)	(4)	(5)
DEP.VAR.=	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*
FF Definition	*n/a*	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*
FFDEF		0.014**	0.014**	0.021***	0.017**
		(2.006)	(1.962)	(2.638)	(2.436)
ANEWSt+1	1.048***	0.948***	0.955***	0.951***	0.962***
	(17.361)	(14.494)	(14.592)	(14.919)	(14.761)
ANEWSt+1×		0.583***	0.557***	0.796***	0.546***
FFDEF		(3.840)	(3.655)	(4.902)	(3.476)
Controls					
SIZE	0.004	0.003	0.004	0.003	0.004
	(1.402)	(1.361)	(1.399)	(1.368)	(1.403)
B/M	0.006	0.006	0.006	0.006	0.006
	(1.171)	(1.174)	(1.185)	(1.212)	(1.194)
BETA	0.021***	0.021***	0.021***	0.021***	0.021***
	(2.966)	(3.032)	(3.034)	(3.062)	(3.009)
GROSSPROFIT	0.063***	0.062***	0.062***	0.062***	0.063***
	(3.164)	(3.171)	(3.178)	(3.178)	(3.219)
SGA	-0.053**	-0.053**	-0.053**	-0.053**	-0.054**
	(-2.497)	(-2.511)	(-2.515)	(-2.518)	(-2.546)
DEPAMORT	0.150***	0.160***	0.160***	0.159***	0.160***
	(2.680)	(2.856)	(2.855)	(2.845)	(2.848)
INTEREST	-0.117	-0.141	-0.136	-0.143	-0.132
	(-1.070)	(-1.285)	(-1.240)	(-1.310)	(-1.209)
TAXES	0.198*	0.190	0.188	0.182	0.187
	(1.686)	(1.622)	(1.598)	(1.548)	(1.596)
ANALYST	-0.002	-0.002	-0.002	-0.002	-0.002
	(-0.475)	(-0.412)	(-0.427)	(-0.355)	(-0.416)
ADISPERSION	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***
	(-4.969)	(-4.990)	(-4.994)	(-5.011)	(-5.012)
Intercept	-0.190***	-0.189***	-0.191***	-0.189***	-0.192***
	(-3.444)	(-3.415)	(-3.455)	(-3.426)	(-3.470)
Country Effects	Included	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included	Included
Year Effects	Included	Included	Included	Included	Included
Clustering S.E.	Firm	Firm	Firm	Firm	Firm
Liner combination coefficient tests:					
ANEWS + ANEWS×FFDEF	n/a	1.531***	1.512***	1.747***	1.508***
R^2	0.054	0.056	0.055	0.056	0.055
Adjusted R^2	0.051	0.053	0.053	0.054	0.053
Observations	26,044	26,044	26,044	26,044	26,044

Table notes:
This table presents the results of the pooled OLS regression of Model 1. The models control for country, industry, and year effects. All the variables are defined in the Appendix. Continuous variables are winsorized at 1% at both sides. t-statistics (in parentheses) are based on clustered standard errors (clustered by firm). ***, **, and * represent significance levels of 1, 5, and 10 percent, respectively.

TABLE 4. Market informativeness of analyst news in family firms who issue management earnings guidance.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP.VAR.=	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*
FF Definition	*n/a*		*FFDEF1*		*FFDEF2*		*FFDEF3*		*FFDEF4*	
Guidance sub-sample	*Guidance*	*No Guidance*	*Guidance*	*No Guidance*	*Guidance*	*No Guidance*	*Guidance*	*No Guidance*	*Guidance*	*No Guidance*
FFDEF			0.024	0.012	0.020	0.013*	0.028	0.020**	0.017	0.020**
			(1.509)	(1.623)	(1.305)	(1.693)	(1.412)	(2.387)	(1.041)	(2.474)
ANEWSt+1	1.182***	1.015***	1.105***	0.899***	1.110***	0.906***	1.112***	0.903***	1.122***	0.915***
	(9.364)	(15.049)	(8.937)	(11.995)	(8.961)	(12.098)	(8.974)	(12.457)	(8.999)	(12.294)
ANEWSt+1× FFDEF			1.884***	0.582***	1.823***	0.559***	2.200***	0.793***	1.486**	0.547***
			(2.761)	(3.693)	(2.636)	(3.537)	(3.063)	(4.766)	(2.129)	(3.364)
Intercept	-0.051	-0.237***	-0.049	-0.234***	-0.050	-0.237***	-0.043	-0.236***	-0.048	-0.238***
	(-0.534)	(-3.619)	(-0.509)	(-3.559)	(-0.519)	(-3.604)	(-0.445)	(-3.586)	(-0.506)	(-3.628)
Controls	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Clustering S.E.	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Linear combination coefficient tests										
ANEWS + ANEWS×FFDEF	n/a	n/a	2.989***	1.481***	2.932***	1.465***	3.312***	1.696***	2.608***	1.462***
Regression Coefficient Difference Tests (Hausman)										
[FFDEF1_mean]variable - [FFDEF0_mean]variable = 0 chi2 *(Prob>chi2)*										
ANEWSt+1 (non-family)	1.37		2.03		1.98		2.11		2.04	
	(0.2423)		(0.1544)		(0.1593)		(0.1461)		(0.1534)	
ANEWSt+1 + ANEWSt+1× FFDEF (family)	n/a		5.00		4.60		5.31		2.74	
			(0.0254)		(0.0320)		(0.0212)		(0.0981)	
ANEWSt+1× FFDEF (family incr)	n/a		3.57		3.27		3.86		1.76	
			(0.0590)		(0.0705)		(0.0495)		(0.1844)	
R^2	0.095	0.059	0.099	0.061	0.099	0.061	0.100	0.062	0.098	0.061
Adjusted R^2	0.087	0.056	0.091	0.058	0.090	0.057	0.091	0.058	0.089	0.057
Observations	7,533	18,511	7,533	18,511	7,533	18,511	7,533	18,511	7,533	18,511

Table notes:

This table presents the results of the pooled OLS regression of Model 1. The sample is segmented into two sub-samples based on whether the firm management has issued earnings (or net income) guidance for the fiscal period t+1 (*Guidance*) or not (*No Guidance*). The models include control variables (*SIZE, B/M, BETA, GROSSPROFIT, SGA*, *DEPAMORT*, *INTEREST, TAXES, ANALYST*, *ADISPERSION*). The models control for country, industry, and year effects. All the variables are defined in the Appendix. Continuous variables are winsorized at 1% at both sides. t-statistics (in parentheses) are based on clustered standard errors (clustered by firm). ***, **, and * represent significance levels of 1, 5, and 10 percent, respectively.

TABLE 5. Market Informativeness of analyst news in family firms stemming from management guidance information and residual sources.

	(1)	(2)	(3)	(4)
DEP.VAR.=	*CARt+1*	*CARt+1*	*CARt+1*	*CARt+1*
FF Definition	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*
FFDEF	0.016	0.012	0.015	0.012
	(1.040)	(0.767)	(0.739)	(0.762)
ANEWSFITTED	0.587***	0.586***	0.654***	0.617***
	(2.705)	(2.701)	(3.017)	(2.832)
ANEWSFITTED × *FFDEF*	3.891***	3.867***	3.263***	3.083***
	(6.271)	(6.242)	(4.765)	(4.239)
ANEWSRES	1.488***	1.495***	1.440***	1.495***
	(9.955)	(9.973)	(9.595)	(10.029)
ANEWSRES × *FFDEF*	1.773*	1.658	3.069**	0.948
	(1.718)	(1.621)	(2.418)	(0.846)
Intercept	0.061	0.063	0.068	0.054
	(0.633)	(0.649)	(0.708)	(0.557)
Controls	Included	Included	Included	Included
Country Effects	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included
Year Effects	Included	Included	Included	Included
Clustering S.E.	Firm	Firm	Firm	Firm
Liner combination coefficient tests:				
ANEWSFITTED + *ANEWSFITTED* × *FFDEF*	4.477***	4.453***	3.917***	3.699***
ANEWSRES + *ANEWSRES* × *FFDEF*	3.262***	3.153***	4.509***	2.444**
R^2	0.118	0.117	0.117	0.115
Adjusted R^2	0.108	0.108	0.107	0.106
Observations	6,664	6,664	6,664	6,664

Table notes:
This table presents the results of the pooled OLS regression of Model 3. The models include control variables (*SIZE*, *B/M*, *BETA*, *GROSSPROFIT*, *SGA*, *DEPAMORT*, *INTEREST*, *TAXES*, *ANALYST*, *ADISPERSION*). The models control for country, industry, and year effects. All the variables are defined in the Appendix. Continuous variables are winsorized at 1% at both sides. t-statistics (in parentheses) are based on clustered standard errors (clustered by firm). ***, **, and * represent significance levels of 1, 5, and 10 percent, respectively.

TABLE 6. The association between analyst news and management news in family firms.

	(1)	(2)	(3)	(4)	(5)
DEP.VAR.=	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*
FF Definition	*n/a*	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*
FFDEF		0.000	0.000	-0.001	-0.002
		(0.210)	(0.195)	(-0.487)	(-0.964)
MNEWS	0.833***	0.864***	0.864***	0.835***	0.844***
	(16.703)	(17.793)	(17.815)	(16.078)	(16.264)
MNEWS × FFDEF		-0.474***	-0.480***	-0.123	-0.266
		(-2.744)	(-2.771)	(-0.967)	(-1.615)
MFE	0.304***	0.322***	0.322***	0.302***	0.304***
	(6.083)	(6.451)	(6.460)	(5.787)	(5.744)
MFE × FFDEF		0.064	0.060	0.113	0.170
		(0.360)	(0.337)	(0.711)	(1.042)
Controls					
SIZE	0.001**	0.001**	0.001**	0.001**	0.001**
	(2.016)	(2.128)	(2.140)	(2.013)	(1.992)
B/M	-0.003	-0.003	-0.003	-0.003	-0.003
	(-0.908)	(-0.892)	(-0.891)	(-0.909)	(-0.913)
BETA	-0.000	-0.000	-0.000	-0.001	-0.001
	(-0.326)	(-0.334)	(-0.339)	(-0.385)	(-0.380)
GROSSPROFIT	0.026**	0.028***	0.028***	0.026**	0.028***
	(2.357)	(2.583)	(2.584)	(2.379)	(2.590)
SGA	-0.017	-0.020*	-0.020*	-0.018	-0.020*
	(-1.521)	(-1.779)	(-1.780)	(-1.564)	(-1.801)
DEPAMORT	0.000	-0.001	-0.001	-0.000	0.001
	(0.007)	(-0.046)	(-0.051)	(-0.009)	(0.032)
INTEREST	-0.083*	-0.087*	-0.087*	-0.083*	-0.087*
	(-1.772)	(-1.886)	(-1.887)	(-1.773)	(-1.884)
TAXES	0.081*	0.081*	0.080*	0.082*	0.080*
	(1.760)	(1.743)	(1.742)	(1.772)	(1.726)
ANALYST	-0.003**	-0.003**	-0.003**	-0.003**	-0.003**
	(-2.274)	(-2.430)	(-2.459)	(-2.335)	(-2.390)
ADISPERSION	0.000	-0.000	-0.000	-0.000	-0.000
	(0.029)	(-0.181)	(-0.178)	(-0.028)	(-0.089)
Intercept	-0.020	-0.022*	-0.022*	-0.020	-0.020
	(-1.532)	(-1.655)	(-1.662)	(-1.521)	(-1.522)
Country Effects	Included	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included	Included
Year Effects	Included	Included	Included	Included	Included
Clustering S.E.	Firm	Firm	Firm	Firm	Firm
Liner combination coefficient tests:					
MNEWS + MNEWS × FFDEF	n/a	0.389**	0.384**	0.712***	0.579***
MFE + MFE × FFDEF	n/a	0.386**	0.383**	0.415***	0.474***
R^2	0.453	0.461	0.461	0.454	0.456
Adjusted R^2	0.448	0.455	0.455	0.448	0.451
Observations	6,778	6,778	6,778	6,778	6,778

Table notes: This table presents the results of the pooled OLS regression of Model 4. The models control for country, industry, and year effects. All the variables are defined in the Appendix. Continuous variables are winsorized at 1% at both sides. t-statistics (in parentheses) are based on clustered standard errors (clustered by firm). ***, **, and * represent significance levels of 1, 5, and 10 percent, respectively.

TABLE 7. The association between analyst news and management news in family firms for positive and negative management surprises.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP.VAR.=	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*	*ANEWSt+1*
FF Definition	*n/a*	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*	*n/a*	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*
			MFE >0					*MFE <0*		
	Pessimistic management guidance (positive surprises)					*Overoptimistic management guidance (negative surprises)*				
FFDEF		-0.002	-0.002	-0.004	-0.003		0.008***	0.008***	0.005	0.008**
		(-0.662)	(-0.720)	(-1.047)	(-1.206)		(3.152)	(3.140)	(1.434)	(2.574)
MNEWS	0.699***	0.687***	0.687***	0.686***	0.684***	0.866***	0.939***	0.939***	0.876***	0.897***
	(13.732)	(12.932)	(12.942)	(13.004)	(12.780)	(10.816)	(12.457)	(12.466)	(10.328)	(10.546)
MNEWS × *FFDEF*		0.311*	0.311*	0.426**	0.354**		-0.797***	-0.801***	-0.463***	-0.626***
		(1.722)	(1.704)	(2.003)	(2.127)		(-5.638)	(-5.700)	(-4.506)	(-3.766)
MFE	0.522***	0.510***	0.510***	0.507***	0.506***	0.054	0.090	0.089	0.051	0.039
	(8.291)	(7.926)	(7.929)	(7.926)	(7.848)	(0.469)	(0.762)	(0.754)	(0.413)	(0.311)
MFE × *FFDEF*		0.354	0.358	0.554	0.413		0.390*	0.391*	0.305	0.519**
		(1.201)	(1.200)	(1.443)	(1.473)		(1.751)	(1.760)	(1.431)	(2.230)
Intercept	-0.036***	-0.035***	-0.035***	-0.034**	-0.034**	-0.002	0.001	0.000	0.005	0.006
	(-2.661)	(-2.586)	(-2.583)	(-2.550)	(-2.527)	(-0.072)	(0.027)	(0.012)	(0.168)	(0.186)
Controls	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Clustering S.E.	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Linear combination coefficient tests										
MNEWS + *MNEWS* × *FFDEF*	n/a	0.998***	0.998***	1.112***	1.038***	n/a	0.143	0.137	0.413**	0.271*
MFE + *MFE* × *FFDEF*	n/a	0.864***	0.868***	1.060***	0.919***	n/a	0.480**	0.480**	0.356*	0.557***
R^2	0.286	0.288	0.288	0.288	0.288	0.644	0.672	0.672	0.649	0.661
Adjusted R^2	0.276	0.277	0.277	0.278	0.278	0.634	0.662	0.662	0.638	0.650
Observations	4,648	4,648	4,648	4,648	4,648	2,085	2,085	2,085	2,085	2,085

Table notes:
This table presents the results of the pooled OLS regression of Model 4 after segmenting the sample into positive and negative *MFE* sub-samples. The models include control variables (*SIZE, B/M, BETA, GROSSPROFIT, SGA, DEPAMORT, INTEREST, TAXES, ANALYST, ADISPERSION*). The models control for country, industry, and year effects. All the variables are defined in the Appendix. Continuous variables are winsorized at 1% at both sides. t-statistics (in parentheses) are based on clustered standard errors (clustered by firm). ***, **, and * represent significance levels of 1, 5, and 10 percent, respectively.

TABLE 8. The association between analyst surprises and management news in family firms for positive and negative management surprises.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP.VAR.=	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*	*AFEt+1*
FF Definition	*n/a*	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*	*n/a*	*FFDEF1*	*FFDEF2*	*FFDEF3*	*FFDEF4*
			MFE >0					*MFE <0*		
	Pessimistic management guidance (positive surprises)					*Overoptimistic management guidance (negative surprises)*				
FFDEF		-0.002	-0.002	-0.003*	-0.001		-0.001	-0.001	-0.001	-0.002*
		(-1.566)	(-1.573)	(-1.861)	(-0.761)		(-0.856)	(-0.989)	(-0.684)	(-1.671)
MNEWS	0.022	0.013	0.013	0.013	0.016	0.029	0.020	0.020	0.023	0.016
	(1.220)	(0.784)	(0.783)	(0.791)	(0.945)	(1.463)	(0.923)	(0.914)	(1.105)	(0.782)
MNEWS × FFDEF		0.219	0.223	0.271	0.139		0.109*	0.112*	0.159**	0.194***
		(1.403)	(1.418)	(1.510)	(0.812)		(1.868)	(1.893)	(2.029)	(3.162)
MFE	0.026	0.018	0.018	0.017	0.020	0.017	0.017	0.017	0.013	0.012
	(1.062)	(0.725)	(0.723)	(0.707)	(0.838)	(0.640)	(0.579)	(0.571)	(0.449)	(0.432)
MFE × FFDEF		0.216	0.220	0.296*	0.135		-0.101	-0.100	-0.039	-0.056
		(1.577)	(1.588)	(1.697)	(0.862)		(-1.147)	(-1.137)	(-0.366)	(-0.652)
Intercept	-0.003	-0.001	-0.001	-0.001	-0.002	0.011	0.010	0.010	0.009	0.009
	(-0.421)	(-0.221)	(-0.219)	(-0.203)	(-0.303)	(1.569)	(1.504)	(1.513)	(1.327)	(1.395)
Controls	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Clustering S.E.	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Linear combination coefficient tests										
MNEWS + MNEWS × FFDEF	n/a	0.233	0.237	0.284	0.155	n/a	0.129**	0.132**	0.182**	0.210***
MFE + MFE × FFDEF	n/a	0.233*	0.238*	0.313*	0.155	n/a	-0.084	-0.084	-0.026	-0.044
R^2	0.039	0.046	0.046	0.047	0.042	0.101	0.115	0.115	0.109	0.123
Adjusted R^2	0.026	0.032	0.032	0.033	0.028	0.075	0.088	0.088	0.082	0.097
Observations	4,645	4,645	4,645	4,645	4,645	2,085	2,085	2,085	2,085	2,085

Table notes: This table presents the results of the pooled OLS regression of Model 5. The models include control variables (*SIZE, B/M, BETA, GROSSPROFIT, SGA, DEPAMORT, INTEREST, TAXES, ANALYST, ADISPERSION*). The models control for country, industry, and year effects. All the variables are defined in the Appendix. Continuous variables are winsorized at 1% at both sides. t-statistics (in parentheses) are based on clustered standard errors (clustered by firm). ***, **, and * represent significance levels of 1, 5, and 10 percent, respectively.