

Regulation Fair Disclosure (REG FD) and its Impact on Earnings Forecasts

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Abstract

During the late 1990s, both Congress and the Securities and Exchange Commission (SEC) sought to encourage more forward-looking disclosures. As a result, in 2000, Regulation Fair Disclosure, better known as Reg FD was created. Extant research documents managers' reluctance to issue voluntary forecasts of earnings due to legal and other considerations. This study finds that when comparing firms that release voluntary earnings forecasts in Pre-Reg FD versus Post-Reg FD environments, more firms are found to issue voluntary earnings forecasts in a Post-Reg FD environment. In addition, forecasts tend to be more accurate than those in a Pre-Reg FD environment, and also tend to have more significant effect on security prices than those in a Pre-Reg FD environment. Overall, it appears that Reg FD has met its goal of increasing transparency, accuracy and numbers of forward-looking financial disclosures to investors.

Introduction

Prior research in the study of voluntary earnings disclosures finds that managers release financial information that tends to contain more bad news than good news [Baginski et al (1994), and Frankel et al (1995)]. Such releases are also found to contain information content to the investors [Patell (1976), Waymire (1984)]. Although forecast release is costly, credible disclosure will occur if sufficient incentives exist. These incentives include bringing investor/manager expectations in line [Ajinkya and Gift (1984)], removing the need for expensive sources of additional information such as brokers [Diamond (1985)], reducing the capital to the firm [Diamond and Verrechia (1987)], and reducing potential lawsuits [Lees (1991)].

More recent studies show that firms are more likely to issue voluntary earnings forecasts in a less litigious environment [Frost (1994)], while other studies show that there are legal environment differences between the U.S. and Canada in issuing earnings forecasts [Baginski et al (2002), and that Canadian firms issue earnings forecasts more frequently than U.S. firms [Stunda (2006)]. The reason is that Canadian courts generally protect firms that release earnings forecasts [Clarkson et al (1992)]. This protection includes requiring unsuccessful plaintiffs to pay the court costs for a successful defendant. In addition, there is no absolute right to a jury trial in Canada, instead, judges tend to hear technical cases and are less likely to issue large award settlements. So with the encouragement of the Canadian government, Canadian firms have increased forward-looking disclosures significantly.

In the late 1990s, both the U.S. Congress and the Securities and Exchange Commission (SEC) sought to encourage more transparency in information flow and forward-looking disclosures between U.S. companies and investors. In an attempt to obtain more numbers of credible earnings forecast disclosures the Regulation Fair Disclosure, known as Reg FD was enacted in August, 2000. The rule mandates that all publicly traded companies must disclose material information, both historical and forward-looking, to all investors at the same time. This Regulation stamped out selective disclosure to mainly large institutional investors. Publicly held companies now had a Federal Regulation which encouraged them to release financial forecast data. Pier (2011) looks at the effectiveness of this Regulation, and using a sample of 150 firms, finds that the number of forward looking disclosures significantly increased after its passage.

The study was silent, however, with respect to the accuracy of these forecasts, and their impact on security prices. This study will extend the Pier (2011) study to incorporate an analysis of both accuracy and information content of forecasts in periods Post-Reg FD and Pre-Reg FD.

Hypothesis Development

Three hypotheses are tested. First, King et al (1990) finds that forward-looking information disclosure in the U.S. increases the firm's exposure to legal liability. It is, in part, for this reason that many U.S. firms have exhibited a reluctance to issue voluntary forecasts on a consistent and on-going basis. Reg FD fundamentally changes how companies communicate with investors by creating more transparency with more frequent and timely communications, thus eliminating the sporadic and selective disclosure process that has had a tendency to breed a litigious environment. The first hypothesis, stated in the null form is:

H1: Post-Reg FD firms engage in a similar number of voluntary earnings forecasts as Pre-Reg FD firms.

The second hypothesis, also stated in the null form, relates to previous studies that indicate U.S. firms are less likely to issue voluntary forecasts during good news periods for fear of litigation (thus a bad news bias):

H2: Average management forecast error (actual EPS – management forecast of EPS) is not significantly different for firms in Pre-Reg FD versus Post-Reg FD periods.

The third hypothesis assesses the information content of the voluntary forecast. If investors interpret earnings forecasts as just additional noise, the market would discount this information. If, however, investors view the earnings forecast as a positive (or negative) signal from management, the market would not discount the information. The expectation for information content of voluntary management forecasts would revolve around these two notions. These alternative notions suggest the following null hypothesis:

H3: The information content of voluntary forecasts in Pre-Reg FD periods is equal to the information content of voluntary forecasts in Post-Reg FD periods.

Research Design

This study consists of samples of all management forecast point estimates (both quarterly and annual) made during two periods; 1991-2000 (this will be the Pre-Reg FD sample of earnings forecasts), and 2001-2010 (this will be the Post-Reg FD sample of earnings forecasts). These samples have met the following criteria: 1) The earnings forecast was recorded by the Dow Jones News Retrieval Service (DJNRS). 2) Security price data was available on the Center for Research on Security Prices (CRSP). 3) Earnings data was available on Compustat.

Table 1 provides the summary of the samples used in the study.

Table 1: Study Sample Summary		
	Sample 1 (1991-2000)	Sample 2 (2001-2010)
Forecasts identified by DJNRS	10,506	19,851
Firms removed due to insufficient Compustat data	(680)	(1,001)
Firms removed due to insufficient CRSP data	(56)	(88)
Final overall sample	9,770	18,762

Hypothesis 1 Results

Table 1 reports a final earnings forecast sample of 9,770 for the Pre-Reg FD sample period. These forecasts are made by a total number of 1,017 firms (9.61 forecasts per firm over 10 years). By comparison, there were 18,762 final earnings forecasts for the Post-Reg FD sample period. These forecasts were made by a total number of 1,438 firms (12.84 forecasts per firm over 10 years).

When U.S. firms issuing voluntary earnings forecasts from 1991-2010 are separated into two distinct 10-year periods, Pre-Reg FD (1991-2000) and Post-Reg FD (2000-2010), findings indicate two noticeable results; First, the number of point estimates increase by 89% (18,762 versus 9,770).

Second, the number of forecasts per firm increase by 34% (12.84 per firm versus 9.61 per firm). Given that the majority of constraints in issuing a voluntary earnings forecast, as exhibited in extant literature, still apply to both study periods, one major condition that has changed between the two sample periods is the enactment of Reg FD. Therefore, the Regulation passage must be considered as at least having an influence in both the increase of total number of forecasts and in number of forecasts per firm. These findings lead to rejection of H1 that the two study periods are not dissimilar.

Test of Hypothesis 2

The management forecasts of earnings must be related to actual earnings in order to determine if bias exists. McNichols (1989) analyzes bias through the determination of forecast error. Stated in statistical form the hypothesis is represented as follows:

$$\sum \frac{fe_i}{n} = 0$$

Where: fe_i = forecast error of firm i (forecast error = actual eps – management forecast of eps), deflated by the firm's stock price 180 days prior to the forecast.

In order to test hypothesis 2, firm forecasts are analyzed for the Pre-Reg FD and Post-Reg FD periods. Statistical analysis is performed on the sample in order to determine if the average forecast error is zero. McNichols (1989) and DeAngelo (1988) conduct a t-test on their respective samples in addition to a Wilcoxon signed rank test. Lehmann (1975) reports that the Wilcoxon test has an efficiency of about 95% relative to a t-test for data that are normally distributed, and that the Wilcoxon test can be more efficient than the t-test for non-normal distributions. Therefore, this analysis consists of performing a t-test and a Wilcoxon signed rank test on the average cross-sectional differences between actual earnings per share and management forecast of earnings per share.

Hypothesis 2 Results

Table 2 contains the results of the hypothesis 2 test. Panel A of Table 2 indicates results for the sample of 9,770 forecasts for the Pre-Reg FD (1991-2000) study period. Mean forecast error for these firm forecasts is .13 with a p-value of .01. Using the distribution-free rank test, significance is observed at the .01 level. Panel B of Table 2 indicates results for the sample of 18,762 forecasts for the Post-Reg FD (2001-2010) study period. Mean forecast error for these firms is .02 with a p-value of .01. Using the distribution-free rank test, significance is observed at the .01 level. The results associated with these statistics are consistent with the notion of greater bad news bias of forecasts in the Pre-Reg FD study period versus the Post-Reg FD study period (i.e. mean forecast error of .13 versus .02, with a positive forecast error indicating actual eps exceeds the management forecast of eps). Stated in another manner, extant literature is consistent in finding significant negative bias in earnings forecasts. The Pre-Reg FD forecasts support this finding. With respect to the Post-Reg FD forecasts, median forecast error is closer to zero, meaning less negative bias and more accuracy in the forecasts. This may be in part due to the enactment of Reg FD. These results lead to a rejection of hypothesis 2 that average management forecast error is not significantly different for Pre-Reg FD and Post-Reg FD study periods.

Table 2: Test of Hypothesis 2				
Table entry is Average Management Forecast Error Deflated by Firm’s Stock Price 180 Days Prior to Forecast				
Model:				
$\sum \frac{fe_i}{n} = 0$				
Panel A- Management forecast error for Pre-Reg FD period forecasts (1991-2000)				
Mean				Standard
(t-statistic)	Median	Minimum	Maximum	Deviation
.13	.09 ^b	.0728	.1581	.0012
(2.38) ^a				
^a Significant at the .01 level (two-sided test). ^b Significant at the .01 level using the non-parametric sign rank test. fe _i = forecast error of firm I (actual eps – management forecast of eps). n = sample of 9,770 forecasts for period 1991-2000.				
Panel B- Management forecast error for Post-Reg FD period forecasts (2001-2010)				
Mean				Standard
(t-statistic)	Median	Minimum	Maximum	Deviation
.02	.03 ^b	-.0285	.0392	.0011
(2.44) ^a				
^a Significant at the .01 level (two-sided test). ^b Significant at the .01 level using the non-parametric sign rank test. fe _i = forecast error of firm I (actual eps – management forecast of eps). n = sample of 18,762 forecasts for period 2001-2010.				

Test of Hypothesis 3

The purpose of this test is to assess the relative information content of management earnings forecasts in Pre-Reg FD versus Post-Reg FD periods. The following model is used to evaluate information content:

$$CAR_{it} = a + b_1UE_{it} + b_2D_{it}UE_{it} + b_3D1_{it}UE_{it} + b_4MB_{it} + b_5B_{it} + B_6MV_{it} + e_{it}$$

Where:

- CAR_{it} = Cumulative abnormal return forecast i, time t
- a = Intercept term
- UE_{it} = Unexpected earnings for forecast i, time t
- D_{it} = Dummy variable, 0 for Pre-Reg FD, 1 for Post-Reg FD
- D1_{it} = Dummy variable, 0 for Post-Reg FD, 1 for Pre-Reg FD
- MB_{it} = Market to book value of equity as proxy for growth and persistence
- B_{it} = Market model slope coefficient as proxy for systematic risk
- MV_{it} = Market value of equity as a proxy for firm size
- e_{it} = error term for forecast i, time t

The coefficient “a” measures the intercept. The coefficient b₁ is the earnings response coefficient (ERC) for all firms in the sample (during both Pre-Reg FD and Post-Reg FD study periods). The coefficient b₂ represents the incremental ERC for Post-Reg FD forecasts. The coefficient b₃ represents the incremental ERC for Pre-Reg FD forecasts. The coefficients b₄, b₅, and b₆ are contributions to the ERC for all firms in the sample. To investigate the effect of the information content of management forecasts on ERC, there must be some control for variables shown by prior studies to be determinants of ERC. For this reason, the variables represented by coefficients b₄ though b₆ are included in the study.

Unexpected earnings (UE_i) is measured as the difference between management earnings forecast (MF_i) and security market participants' expectations for earnings proxied by consensus analyst following as per Investment Brokers Estimate Service (IBES) (EX_i). The unexpected earnings are scaled by the firm's stock price (P_i) 180 days prior to the forecast:

$$UE_i = \frac{(MF_i - EX_i)}{P_i}$$

For each disclosure sample, an abnormal return (AR_{it}) is generated for event days -1, 0, +1, where day 0 is defined as the date of the forecast disclosure identified by DJNRS. The market model is utilized along with the CRSP equally-weighted market index and regression parameters are estimated between -290 and -91. Abnormal returns are then summed to calculate a cumulative abnormal return (CAR_{it}). Hypothesis 3 is tested by examining the coefficients associated with unexpected earnings forecasts in the Post-Reg FD study period (b_2) and the coefficient associated with unexpected earnings forecasts in the Pre-Reg FD study period (b_3). There are two possible conclusions; the forecast may be noisy, which in this event, the b_2 and/or b_3 variables ≤ 0 , or it will possess an information-enhancing signal to the investor, which will result in the b_2 and/or b_3 variables ≥ 0 .

Hypothesis 3 Results

Table 3 contains the results of the hypothesis 3 test. As indicated in the table, the coefficient representing the variable which is the incremental ERC for Post-Reg FD forecasts (b_2), has a value of .19 with a p-value of .01. The coefficient representing the variable which is the incremental ERC for Pre-Reg FD forecasts (b_3), has a value of .11 with a p-value of .10. The coefficient representing the overall ERC for all forecasts (b_1) has a value of .15 with a p-value of .05. All other control variables are not significant at conventional levels. These findings indicate that not only do forecasts contain information content, there is a difference in the information content of Pre-Reg FD versus Post-Reg FD forecasts. Results, therefore, suggest rejection of the hypothesis that information content of management forecasts during these two study periods is equal.

Table 3: Test of Hypothesis 3							
Model: $CAR_{it} = a + b_1UE_{it} + b_2D_{it}UE_{it} + b_3D1_{it}UE_{it} + b_4MB_{it} + b_5B_{it} + B_6MV_{it} + e_{it}$							
Table represents Pre-Reg FD and Post-Reg FD period forecasts							
Coefficients (t-statistic)							
a	b_1	b_2	b_3	b_4	b_5	b_6	Adjusted R ²
.28	.15	.19	.11	.05	.09	.22	.121
(.91)	(1.93) ^a	(2.35) ^b	(1.76) ^c	(.12)	(.27)	(.64)	
^a Significant at the .05 level (one-sided test) ^b Significant at the .01 level (one-sided test) ^c Significant at the .10 level (one-sided test)							
$CAR_{it} = a + b_1UE_{it} + b_2D_{it}UE_{it} + b_3D1_{it}UE_{it} + b_4MB_{it} + b_5B_{it} + B_6MV_{it} + e_{it}$							
Where:	CAR_{it} = Cumulative abnormal return forecast I, time t a = Intercept term UE_{it} = Unexpected earnings for forecast I, time t D_{it} = Dummy variable, 0 for Pre-SLUSA, 1 for Post-SLUSA $D1_{it}$ = Dummy variable, 0 for Post-SLUSA, 1 for Pre-SLUSA MB_{it} = Market to book value of equity as proxy for growth and persistence B_{it} = Market model slope coefficient as proxy for systematic risk MV_{it} = Market value of equity as a proxy for firm size e_{it} = error term for forecast I, time t						
n=sample of 28,532 forecasts for period 1991-2010							

Conclusions

This study uses the largest sample of voluntary earnings forecasts to date, covering a total of 20 years and 28,532 annual and quarterly forecasts, to research the impact of Regulation Fair Disclosure (Reg FD). Past studies have found that firms are reluctant to release earnings forecasts, in part due to potential lawsuits that may result from their release. In addition, studies indicate that those forecasts that have been released tend to contain a negative or bad news bias, again, partially due to the potential litigation aspects. Reg FD was an attempt by the SEC and U.S. Congress to encourage publicly held firms to release increased, and more precise, earnings forecasts with the backing of a Federal Regulation.

This study provides empirical evidence regarding the accomplishment of both the SEC and Congress in obtaining their stated goals. Specifically, results indicate that the number of forecasts (both quarterly and annual) have increased since the adoption of the Reg FD, and that firms are issuing a higher number of earnings forecasts per firm. In addition, earnings forecasts since the Reg FD have tended to show less downward bias, and in that respect have become more accurate. Also, the market tends to assign a different degree of information-enhancing content to forecasts made in a Post-Reg FD environment. This information signal is both positive and significant.

The net results indicate that when U.S. firms are encouraged and backed by Federal Regulation, they tend to release increased numbers of forecasts, which are more precise, and therefore more beneficial to those stakeholders dependent upon the forecast information.

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