

DO FINANCIAL ANALYSTS' RESPOND TO REGULATORY EVENTS? EVIDENCE FROM THE TAX REFORM ACT

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ABSTRACT

Since the downfall of Enron, considerable legislative and media attention has focused on the role of various participants in the capital markets. This study examines forecasting behavior of financial analysts in the context of Tax Reform Act of 1986 (henceforth TRA86). We focus on time periods surrounding the passage of TRA86, and examine the properties of analysts' forecasts during those periods. Our results indicate that analysts revised their forecasts more frequently and substantively during periods of deliberation and implementation of TRA86, and that the forecast accuracy of financial analysts diminished immediately after the passage of TRA86.

INTRODUCTION

This study examines forecasting behavior of financial analysts in the context of the Tax Reform Act of 1986 (henceforth TRA86). We examine the properties of financial analysts' earnings forecasts before, and after the enactment of TRA86. Specifically, we conduct tests on the magnitude, direction, and frequency of forecasts of earnings and earnings growth during these periods to evaluate if the behavior of financial analysts was consistent with the expected impact of the legislation on the corporations.

REVIEW OF THE TAX REFORM ACT OF 1986

TRA86 was designed to have distributional wealth effects from individuals to corporations, and to shift the tax burden across all corporations. The primary motivation for the reform act was to simplify the then prevailing tax code and to reduce the tax burden on individual taxpayers. The new tax laws reduced the marginal tax rates and reduced or eliminated most tax credits available to the corporations, resulting in shifting of tax burden to firms that enjoyed these credits.

Time Line

TRA86 was deliberated and debated over a two-year period beginning in mid-1984. The final bill was signed into law on October 22, 1986. We refer to the 1985 fiscal year as the debate period, and 1987 fiscal year as the implementation period. The debate period was characterized by considerable amount of uncertainty, whereas the implementation period was characterized by unraveling of the "true" effect of the change of law on the firms. During the period of debate, analysts had to anticipate the effects of the tax law on managerial behavior, and forecast the effective tax rates of firms given the opportunistic behavior of firms' managers and the likely passage of tax reform of 1986. After enactment, in the implementation period, analysts had to apply the newly enacted law to forecast the effective tax rate and the effects of the new tax law on observable and non-observable managerial behavior.

DATA, SAMPLE AND VARIABLE DEFINITION

This study uses data from two sources. The COMPUSTAT annual active and research files are used to identify firms, their industry affiliation, and obtain firm-specific financial information. The I/B/E/S U.S. detailed files are used to obtain dated earnings forecasts of each individual financial analyst. We confine our analysis to firms belonging to the 40 industries identified in previous research, based on the negative abnormal returns of firms in that industry during the period that TRA86 was being considered (Givoly and Hayn (1991)). We use these ranking of industries to classify firms into positive tax effect, and negative tax effect groups. The positive tax effect firms are expected to benefit from the changes in the tax laws whereas the negative tax effect firms are expected to suffer financial losses.

We further restricted our sample to those firms with at least 3 analysts following the firm and a total of 5 forecasts in the each period (1985 and 1987). This resulted in a *final* sample of 192 firms (384 firm-years) – 87 firms in the positive tax effect group, and 105 in the negative tax effect group.

Variable Definition

The dependent variables include FREV, MREV, MAREV, MERROR and STDVAR. The mean forecast revisions, FREV, are computed by dividing the number of forecast revisions of annual earnings (issued between January 1 of the fiscal year until the earnings announcement date), by the number of analysts. The average magnitude of the forecast revision, MREV, is the sum of average individual analyst forecast revisions (from January 1 of the fiscal year until the earnings announcement date), divided by the number of analysts and scaled by the current period earnings per share. The average magnitude of absolute forecast revision, MAREV, is the sum of average individual analyst absolute forecast revision over the same period. The mean forecast error, MERROR, is the sum of the absolute values of forecast errors of individual analysts' forecasts of annual earnings, divided by the number of analysts. For each analyst, the most recent forecast issued is the one used to calculate the forecast error. The standardized variance for each firm-year, STDVAR, is the variance of analysts' forecasts of annual earnings, divided by the absolute value of the mean forecast. Again, for each analyst, the most recently issued forecast is used to compute the variance. We separate the high tax effect firms from the low tax effect firms by creating an indicator variable, HTAX. HTAX is equal to one for the test firm and zero for control firm. We separate the years of the forecasts, when required, by using a dummy variable, YEAR. Year is coded one for 1985 observations and zero for 1987 observations. Finally, we introduce a term that is an interaction of the two dummy variables, HTAX and YEAR. In addition to these variables, we have two control variables. Analyst following, ALYSTS, is the total number of analysts following the firm from January 1 of the fiscal year until the earnings announcement date. BVEQ is defined as the book value of equity (less claims of preferred shareholders) divided by the number of common shares outstanding at the end of the year.

RESEARCH QUESTIONS AND FINDINGS

We pose the following research questions and provide answers to these questions by estimating regression models using data gathered and discussed earlier.

Do analysts revise earnings growth estimates downwards for firms adversely affected by TRA?

We test this question by performing the following estimation.

$$\text{GRREV} = \beta_0 + \beta_1 \text{HTAX} + \beta_2 \text{ALYSTS} + \beta_3 \text{BVEQ} + \varepsilon \quad (1)$$

We expect the coefficient for β_1 to be negative if analysts revise earnings expectations downwards for firms adversely affected by TRA. The estimated coefficient is negative and significant at 0.05 level. These findings are consistent with analysts revising forecasts in the direction of the expected result.

Do the analysts revise short-term forecasts more frequently for firms adversely affected by TRA?

Several studies have examined issues related to the issuance and frequency of analysts' forecast revisions. These studies collectively indicate that analysts update their forecasts whenever they receive value relevant information. Thus, we would expect to see more frequent and substantive revisions of earnings estimates for firms more likely to be effected by the tax reform act during the year when tax law change was deliberated and enacted. We test this question by examining the differences in the forecast frequency, forecast revision magnitude, and the absolute forecast revision magnitude for the firms adversely/positively affected by the tax law changes and the firms relatively unaffected by TRA86. The following two regression model for forecast revision frequency and the magnitude of forecast revisions are as follows:

$$\text{FREV} = \beta_0 + \beta_1 \text{HTAX} + \beta_2 \text{YEAR} + \beta_3 \text{HTAX*YEAR} + \beta_4 \text{ALYSTS} + \beta_5 \text{BVEQ} + \varepsilon \quad (2a)$$

$$\text{MAREV} = \beta_0 + \beta_1 \text{HTAX} + \beta_2 \text{YEAR} + \beta_3 \text{HTAX*YEAR} + \beta_4 \text{ALYSTS} + \beta_5 \text{BVEQ} + \varepsilon \quad (2b)$$

For (2a), the estimated coefficients of β_1 and β_3 are both positive and significant indicating that the analysts more frequently revise their forecasts for firms adversely affected by TRA, and these revisions are high both before and after TRA86.

For (2b), the estimated coefficient of β_1 is not statistically significant, but β_3 is positive and significant indicating that the analysts more frequently revise their forecasts for firms adversely affected but only after the passage of TRA.

Does the Analyst Forecast Accuracy Deteriorate?

There is an extensive behavioral literature documenting deterioration in the judgement quality with increase in task complexity, (see for example, Payne, Bettman and Johnson (1990), Iselin (1988) and Paquette and Kida (1988)). It is, therefore, reasonable to assume that the forecasting of earnings is a more difficult and constitutes a more complex task during a period of tax law change. In addition, because we know that the tax law change was bad news, we expect the forecast accuracy for the high tax group to be lower than the forecast accuracy of the no tax effect group. We estimate the following regression equation to test our research question:

$$\text{MERROR} = \beta_0 + \beta_1 \text{HTAX} + \beta_2 \text{YEAR} + \beta_3 \text{HTAX*YEAR} + \beta_4 \text{ALYSTS} + \beta_5 \text{BVEQ} + \varepsilon \quad (3)$$

For (3), the estimated coefficient of β_1 is not statistically significant, but β_3 is positive and significant indicating that the analysts forecast errors are larger for firms adversely affected but only after the passage of TRA. Because the short-term forecasts are for the current period only, these results indicate deterioration of forecast accuracy of high tax effect firms after the passage of TRA.

CONCLUSIONS

In this paper we examine the behavior of financial analysts around the passage of the Tax Reform Act of 1986. Our findings are that financial analysts revise their forecasts more frequency and substantively during periods of deliberation and implementation of TRA86, and that the forecast accuracy of financial analysts diminishes immediately after the passage of TRA86.