

Information Content of Earnings Forecast Disclosures

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Abstract

This study investigates the usefulness for investors of earnings forecast information, disclosed in seasoned equity offerings (SEOs) prospectus of companies on the Athens Stock Exchange. It is hypothesized that company's management and analysts are superior in predicting corporate earnings relative to the forecasts that investors could form if they used a simple random walk predicting model. Additionally, this study investigates the association of post-SEO market value, forecasted earnings and forecast error. Empirical findings reveal that earnings forecast disclosures provide superior information and are used by investors in valuing issuing companies.

1 INTRODUCTION

Rational investors in order to decide whether to subscribe for new shares offered, evaluate the relative prospects of issuing companies. Recent research (Firth et al, 1995 [5], 1998 [6]; Jaggi, 1997 [7]; Pedwell, Warsame and New 1994 [8]; Chan et al, 1996 [2]; Chen et al 2001 [4] and Chen and Firth, 1999 [3]) argues that due to the limited usefulness of published accounts as a guide to future performance and in the absence of any other reliable information, investors rely on information disclosed in prospectus to make positive investment decisions.

Earnings forecasts constitute one of the primary disclosures in IPO (initial public offering) or SEO (seasoned equity offering) prospectus. The capital market expansion in Greece in the recent past caused an increase in the number of initial public offerings (IPOs) and seasoned equity issues (SEOs) offered by companies on the Athens Stock Exchange.

Motivated by the importance of earnings forecasts, as stressed in recent research, the objective of this study is to investigate the usefulness of earnings forecast disclosures to investors. It is hypothesized that company management and analysts are superior in predicting corporate earnings relative to the forecasts that investors could form if they used a simple random walk predicting model. In addition this study investigates the association between post SEO market value, forecasted earnings and forecast error.

The remainder of the paper is organized as follows: Section 2 gives a brief overview of the SEO process in Greece. This is followed by a description of the sample and methodology employed in sections 3 and 4. Section 5 presents a discussion of the empirical results and section 6 concludes the paper.

2 SEO PROCESS

The share capital increase through a rights issue is the standard case of capital increase for companies listed in the Athens Stock Exchange. In order to proceed to a rights issue, the company calls the shareholders general meeting. Twenty (20) days before the general meeting the minimum or one month the maximum, the company announces the place and the purpose for calling this meeting through a press release. A majority of 2/3 is required for the general meeting to make important decisions. The general meeting takes place on the announced date and the rights issue is decided.

According to presidential decree 348/85 the company issues and publishes a prospectus, which provides the following:

- Information on the financial prospects of the company, as evaluated by the Underwriter.
- The main facts of the investment plan.
- Special reference to the risk factors that may affect the financial structure and future status of the company in a negative way.

Rights issues are usually underwritten by investing institutions or brokerage firms. The company may designate more than one underwriter. The underwriters are obliged to guarantee the accuracy of the prospectus. The prospectus is signed by the main underwriter.

A day after the general meeting, the company informs the Ministry of Development and the Athens Stock Exchange of its decision to proceed to rights issue and waits for their approval. After both having approved the company's decision the prospectus is sent to the shareholders. After the approval and the exercise of

preference rights the new shares are negotiated in the Stock Exchange.

3 METHODOLOGY

This section presents the methodology employed in the study.

3.1 Superiority Measure

In order to measure the superiority of the company's management and analysts to predict corporate earnings more accurately relative to the forecasts derived from a simple random walk model, measure SUP is estimated.

The SUP measure was firstly developed by Brown et al (1987) [1] and was used in studies of IPO forecast accuracy (Chen and Firth, 1999 [3]; Chen, Firth and Krishnan, 2001 [4]).

The superiority measure is calculated as:

$$SUP_{it} = LN\left[\frac{(AP_{it} - AP_{it-1})}{(AP_{it} - FP_{it})}\right]^2$$

where (i) AP is the actual profit; (ii) FP is the profit forecast as given in the SEO prospectus.

The numerator measures the actual change in profit from year t-1 (prior to the SEO) to year t (the year end after the SEO) and can be regarded as the forecast error from a simple time series forecasting process. The denominator measures the error in the prospectus profit forecast. A positive value for SUP (SUP > 0) means that the SEO prospectus forecast is more accurate than a forecast based on a random walk model; a negative value (SUP < 0) implies that the random walk forecast is superior.

3.2 Market Valuation and Earnings Forecasts

This section investigates the association of market value of an SEO at the end of the first trading day to forecasted earnings and signed forecast error.

The motivation of employing such a model is twofold: i) to investigate whether investors use earnings forecasts in valuing the issuing company and ii) to investigate whether investors can at least partially anticipate the forecast error at the time of the equity offering making price adjustments. Firth¹ (1998) [6] argues that investors rely heavily on earnings forecasts in valuing the issuing company. If this is true and investors can anticipate whether actual earnings are greater or less than forecasted earnings then post SEO market price should be a function of investors' perception of earnings forecast and earning forecast accuracy.

The following regression model is estimated:

$$MV = a_1 + a_2 FP + a_3 FE \quad (1)$$

¹ Firth hypothesized a strong positive relationship between IPO market value and earnings forecasts

where MV is the market value of the SEO at the end of the first trading day after the SEO; FP is forecasted earnings as disclosed in SEO prospectus; FE is the signed forecast error. All variables are expressed on per shares basis.

4 DESCRIPTION OF THE SAMPLE AND DATA

The study sample consists of the seasoned equity offerings conducted by non-financial companies on the Athens Stock Exchange during the period 1992 to 1999. A total of 227 SEOs were identified during this period.

From these companies in the final sample only those which satisfied the following criteria were retained:

1. An available prospectus,
2. Available earnings forecast disclosures.

Forty (40) companies were excluded from the analysis for not satisfying the above mentioned criteria. Another twenty seven (27) were removed because the collection of the data was not feasible. As a result, the final sample consists of 160 SEOs during the period from 1992 to 1999.

Panel A of table (1) provides the descriptive statistics of the independent variables used in regression model (1). Panel B of table (1) provides Spearman (in the first line) and Pearson (on the second line) correlation coefficients of the variables used in regression model (1).

Panel A: Descriptive statistics of the independent variables of regression model (1)

$MV = a_1 + a_2 FP + a_3 FE$			
Variables	Mean	Median	Standard Deviation
FP	0.4083	0.2885	0.4482
FE	-0.0365	-0.0134	0.2561

Panel B: Spearman and Pearson correlation matrix of the independent variables in regression model (1)

Variables	FE	FP
FE	1.000	
FP	0.692*** (0.428)***	1.000

Notes: Definition of variables: FP is forecasted earnings as disclosed in SEO prospectus; FE is the signed forecast error. All variables are expressed on a per share basis.

*** Correlation is significant at 1% level of significance (2-tailed)

Table 1: Regression model (1)

The correlations between the explanatory variables presented in table (1) are not particularly high.

5 EMPIRICAL FINDINGS

The empirical findings of the models proposed are presented in the following section.

5.1 Superiority Measure

The mean value of metric SUP, as reported in table (2), is greater than zero and this implies that SEO earnings forecasts are more accurate than the forecasts that investors could form if they were using a simple time series model. The earnings forecast prospectus disclosures are more informative to the public in regards to future prospects of the issuing companies than forecasting by using a pure random walk process.

This finding leads to the conclusion that potential investors could reduce uncertainty and information asymmetries between themselves and company management if they use prospectus information when deciding to subscribe to new shares offered.

Variables	Mean	Median	Standard Deviation
SUP	1,0388***	0,7024	3,5594

Notes: Definition of the variables: SUP: superiority measure

*** Statistically significant different to zero at 1% level of significance

Table 2: Descriptive statistics of SEO earnings superiority measure²

5.2 Market Valuation and Earnings Forecasts

Table (3) presents empirical findings from the regression of post-SEO market value on forecasted earnings and forecast error variable.

$$MV = a_1 + a_2 FP + a_3 FE$$

Variables	MV
FP	5.6644 (3.197)***
FE	5.4887 (1.962)***
C	8.1922 (8.701)***

Notes: Definition of the variables: MV is the market value of the SEO at the end of the first trading day after the SEO; FP is forecasted earnings as disclosed in SEO prospectus; FE is the signed forecast error. All variables are expressed on a per share basis.

*** Significant at 1% level of significance (2-tailed)

Table 3: Regression results (coefficient and t-statistic) of model (1)

Focusing on the forecasted earnings variable a statistically significant coefficient is observed for FP. This result supports the hypothesis that investors use forecasted earnings in valuing the issuing firms after the equity offering event. However the results reveal a positive and statistically significant coefficient on forecast error variable as well. This positive relation implies that investors treat earnings forecast as pessimistic where actual profits exceed forecasted profits and so are positively related to price adjustments. The fact that earnings forecasts are used by investors in their perception of firm value and are evaluated as underestimated strengthens the importance of SEO forecast disclosures.

The variance of market value, forecasted earnings and forecast error metrics are reported in table (4).

Variables	Sample Variance
MV	35.684
FP	0.201
FE	0.066

Notes: Definition of the variables: MV is the market value of the SEO at the end of the first trading day after the SEO; FP is forecasted earnings as disclosed in SEO prospectus; FE is the signed forecast error. All variables are expressed on a per share basis.

Confidence Level (95 %)

Table 4: Sample Variance of variables included in regression model (1)

² Extreme outliers have been removed from the sample

6 CONCLUSION

This study has investigated the usefulness of earnings forecast disclosures published on SEO prospectus of firms on the Athens Stock Exchange. The findings demonstrate that SEO forecasts are proved to be superior and more accurate than forecasts derived from a pure time series model and so constitute a better source of information. The findings of the study also point out a significant association between forecasted earnings and forecast error with company's post-SEO market value. The significant association indicates that earnings forecasts are of important concern to investors in valuing issuing companies. However a question remains unanswered. Are forecasted earnings accurate and unbiased or does investors' reliance on forecast disclosures provide incentives to management to convey favorable information about the issuing company and so persuade investors to subscribe to the new shares offered? Future research question recognizes the possibility that SEO forecasts may lead unsophisticated investors to risky investment decisions and so must be treated with caution.

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