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THE IMPACT OF EARNINGS MANAGEMENT ON THE VALUE RELEVANCE OF EARNINGS: EMPIRICAL EVIDENCE FROM TURKEY

A.Taylan ALTINTAŞ*
Emre Selçuk SARI**
Emir OTLUOĞLU***

Abstract

This empirical study focus on demonstrating the relation between of earnings and stock returns by using data from Istanbul Stock Exchange of Turkey (Borsa Istanbul-BIST). This study analyzes the presence of earnings management practices by using financial information of the Turkish listed manufacturing companies. For this purpose, it was tested that low performance companies are prone to apply income increase practices than high performance companies. It was first approved that companies with low performance employ these practices. Thereafter it was examined if these earnings management practices decrease the value relevance of earnings. To test the hypothesis a model is created to present the relation between reported earnings and stock returns. Our findings display that low performance companies tend to increase their earnings so that they can hide their low performance. Our results point out that there is significant and positive relationship between earnings and market adjusted stock returns for whole sample, however there is no significant difference between adjusted market returns of high and low performance companies. In the literature, earnings management and value relevance studies are mostly based on US data. This study is the first paper that examines the relationship between earnings management, value relevance and financial performance in Turkish manufacturing companies.

Keywords: Earnings, Financial Reporting, Value Relevance, Financial Performance.

1. Introduction and Previous Research

Earnings management has become an important subject for academicians and practitioners in recent years. Various studies examined the causes and consequences of this issue. The purpose of this paper is to analyze the relation between the earnings management and its effect on value relevance of financial information of listed manufacturing companies in Turkey.

Earnings management can be defined as a tool of influencing short-term income by the managers (Sevin, 2005). Earnings management has become a critical issue since 1990's because top management of listed companies challenged by enormous pressure to achieve targeted earnings and to meet financial analysts' financial projections. Because of this pressure, some corporate executives started to utilize aggressive accounting practices. In some cases, these practices had even become fraudulent. Healy and Wahlen (1999) found that there are several reasons for earnings management. Some of these reasons are; manipulating the stock prices, enhancing management compensation, avoiding violation of borrowing agreements, and evading government regulations. Since the managers believe that investors and lenders' decisions is affected by financials of the companies, they may manipulate financials via earnings management practices. Numerous papers indicated that earnings management practices are used for enhancing accounting income or to reduce cost of capital (Healey, 1985; Moses, 1987; Trueman and Titman, 1988).

The research of Dechow and Skinner (2000) argued that there is a remarkable difference between the perceptions of accounting academicians and practitioners/regulators. Practitioners and regulators mostly believe that earnings management is prevalent and unacceptable. On the other hand, academicians are reluctant to accept that providers of financial information deliberately utilize earnings management (Noronha, 2008). According to Dechow and Skinner (2000), academicians are mostly vague in making statements about earnings management. They regularly prefer to study huge number of companies, and so inclined to use statistical jurisdictions that may not be very explanatory in determining earnings management.

Various studies have been made about earnings management and value relevance. Type of research papers fall into two categories; first category examines the measures of earnings management using total

* Associate Professor, PhD, Istanbul University, School of Business, Department of Accounting, ataylana@istanbul.edu.tr
** PhD, Istanbul University, School of Business, Department of Accounting, emresari@istanbul.edu.tr
*** Assistant Professor, PhD, Istanbul University, School of Business, Department of Finance, otluoglu@istanbul.edu.tr

accruals (Healy 1985), second category investigates regression models [such as Jones (1991), modified Jones model (1995)] to break accruals into discretionary and non-discretionary accruals. These studies then use the nature of discretionary accruals in different ways to test if earnings management took place. It is determined as an evidence of earnings management if discretionary accruals are positive or negative.

Other studies focus on relationship between stock returns and earnings (Ragab, 2006). Starting from Ball and Brown (1968), there has been many research papers about examining the benefit of accounting information, and the relation between stock returns and reported earnings. It was found that companies' equity values is linearly related to these accounting information without any differentiation among these companies (Riahi-Belkaoui and Fekrat, 1994). As shown by models of valuation based on accounting information, value of equity is correlated with reported income (e.g. Ball and Brown, 1968; Collins et al., 1989), and statement of financial position measurements or both book value (BV) and earnings (e.g. Barth, 1991; Shevlin, 1991). Ohlson model (1995) expands the results of previous research studies about value relevance of financial information by covering assets, liabilities and income statement items. Chen et al. (1999) empirically researched the perceptions of domestic investors in Chinese stock market about the usefulness of accounting information in valuation of stocks. Results of this study indicates that, despite the fact that Chinese Stock Exchange is relatively new and inadequate accounting practices are perceived as common, accounting information is still value relevant.

Numerous studies indicated that earnings management affects value relevance of earnings (Warfield et al., 1995; Christensen et al., 1999; Hunt et al., 2000; Feltham and Pae, 2000; Marquardt and Wiedman, 2004; Habib, 2004; Tucker and Zarowin, 2006; Cheng and Li, 2014, Mustafa, 2017). Mustafa (2017) used Egyptian data to investigate this relation, as well. This study examined the relation between value relevance of earnings in the Egyptian Stock Exchange and opportunistic earnings management.

Additionally, there are various studies in literature that examine earnings management practices and its relationship with numerous factors such as market returns etc. Ball, R., Kothari, S.P. and Robin, A. (2000), examined the relation between timeliness and conservatism on earnings in companies of common law and civil law countries. Barth, M.E., Cram, D.P. and Nelson, K.K. (2001), showed that in order to increase the predictability of earnings, earnings should be disintegrated into cash flow and six major accrual components (change in accounts receivable, change in inventory, change in accounts payable, depreciation, amortization, and other accruals). Beneish, M.D. (2001) made a research that investigates the relation between earnings management incentives stemming from regulation, debt and compensation contracts, insider trading and security issuances. This study proves that inflating accounting income is more common than deflating in earnings management. Burgstahler, D. and Eames, M. (1998), found evidence that companies tend to intervene to avoid negative earnings surprises, because number of zero and positive earnings surprises is extraordinarily higher than the number of negative earnings surprises.

Schipper, K. (1989), examined previous research and stated that analytical models of earnings management have forced them to confront the questions of exogenous incentives and communication. Once it is assumed that contracts will shift to take account of earnings management or that full communication will occur, questions of earnings management no longer arise. Second, earnings management has highlighted the role of accruals in a way that complements studies of the information content of cash flows versus accruals.

Sloan, R.G. (1996) investigated the relation between stock prices and information about future earnings based on the accrual and cash flow components of current earnings. Performance of earnings depends on cash and accrual components of earnings. However, stock prices do not reflect that the investors are able to identify correctly the different properties of these two components of earnings.

Jiraporn, P., Miller, G.A., Yoon, S.S. and Kim, Y.S. (2008), found that companies where earnings management practices are common, that companies have less agency costs. Their research also proved that there is a positive relation between firm value and the extent of earnings management. As a summary, their results indicate that earnings management is, on average, not detrimental.

Kothari, S.P., Leone, A.J. and Wasley, C.E. (2005) examined and compared tests based on performance-matched discretionary accruals and traditional discretionary accrual measures. Their research showed that performance-matched discretionary accrual measures increases the reliability of results of earnings management research.

Lev, B. (1989) found evidence that returns and earnings appear to be used by investors, but only at a limited scale. This is shown by the weak correlation between stock returns and earnings.

The paper is organized as follows. The next section discusses research methodology and analysis. Section 3 provides empirical results, and Section 4 concludes the paper.

2. Motivation of the Study and Research Design

Turkey is a regional power and a member of G-20 country in the Southerneast Europa. It is an associate member of European Union. It is an emerging economy with strong commercial and political relations with USA and EU. Istanbul Stock Exchange (Borsa Istanbul-BIST) is the only stock exchange in Turkey. The listed companies in Turkey make financial reporting under Turkish Financial Reporting Standards which are official translation of International Financial Reporting Standards (IFRS).

The motivation of this study is that value relevance and earnings management is not widely examined in Turkey.

Although there are numerous papers on relation between value relevance and earnings management in countries such as USA, there is no previous research undertaken in Turkey, where this relationship is examined in a specific sector. This is the first paper that examined the relationship between financial performance, value relevance and earnings management in Turkish manufacturing companies.

The aim of this paper is to test whether Turkish listed manufacturing companies employ earnings management practices and analyzes the relation between value relevance and earnings management of accounting earnings reported by those companies.

For this purpose, financial information of 147 listed Turkish manufacturing companies during the years 2011-2015 were collected from the database of FINNET. 35 of these companies were eliminated because of missing information and the analyses were made by using 112 companies.

These 112 companies are divided into two groups; high performance and low performance companies based on cash flows from operations. It was first confirmed that low operating performance companies employs the earnings management practices. Then it was tested whether the low operating performance companies' earnings management practices has a negative impact on the value relevance of earnings. For this purpose, first it was investigated to detect earnings management for low operating performance companies. Then, it was determined whether these practices reduces the value relevance of earnings. Finally it was demonstrated how the earnings provides information that affects firm value. Earnings response coefficient is used for value relevance of earnings.

In this study, discretionary accruals are used as an intermediary for earnings management. As a matter of fact, a model is required to disintegrate the discretionary accruals from total accruals. Numerous models were utilized to disintegrate the accruals as discretionary and non-discretionary. Healy (1985) Model, the DeAngelo (1986) Model, the Jones (1991) Model, the cross-sectional Jones Model (Defond and Jiambalvo, 1994; Subramanyam, 1996), the modified Jones Model (Dechow *et al.*, 1995), the industry Model (Dechow *et al.*, 1995) and the Kang and Sivaramakrishnan (1995) Model are prominent examples of these models. We have used modified Jones model.

Like the prior research such as McNichols and Wilson, 1988; Jones, 1991; Defond and Jiambalvo, 1994; Han and Wang, 1998; Yoon and Miller, 2002, Mostafa, 2017, the modified Jones model uses the similar variables in determining the discretionary accruals. In this model, total accruals are calculated as the difference between earnings and cash flow from operations. Revenues are defined as the sum of net sales and other operating income. Receivables are represented as trade receivables less the allowance for doubtful accounts. The gross property, plant and equipment are calculated by deducting the accumulated depreciation from gross amounts. Total assets are defined as the sum of total current assets, advances payments on fixed assets or investments, investment in unconsolidated subsidiaries, other long-term investments, goodwill, net property plant and equipment and other assets.

The first research hypothesis is as follows;

H1: There is income-increasing opportunistic earnings management when operating performance is low.

The first research hypothesis tested that low operating performance companies commit earnings management practices. After having confirmed this hypothesis, we analyzed the second research question;

The second research hypothesis is as follows;

H2: Value relevance of earnings (measured by earnings response coefficient) is less in the presence of opportunistic earnings management due to the low operating performance.

When testing the second research hypothesis, we used Market Adjusted Return to analyze value relevance.

3. Empirical Results

As mentioned before, the sample of 112 companies are divided into two groups of equal numbers; high performance and low performance companies based on cash flows from operations. Cash flows from operations are deflated by total assets. The performance is measured by the average of last five years' cash flows from operations. Descriptive statistics of cash flows from operations and earnings for the low cash flows group (56 firms), the high cash flows group (56 firms) and the entire sample (112 firms) are stated in Table 1.

Table 1. Descriptive Statistics

	Full Sample		Low Performance Firms		High Performance Firms	
	Mean	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**
Earnings / Market Value of Eq	0.0532	0.1393	0.0189	0.1691	0.0874	0.0887
Cash from Op. /Tot. Assets	0.1205	0.0893	0.0701	0.0670	0.1709	0.0799
Total Accruals / Total Assets	-0.0717	0.0530	-0.0640	0.0569	-0.0794	0.0474
Discretionary Accruals	0.1700	0.0995	0.1424	0.0786	0.1977	0.1100

Then it is tested whether discretionary accruals are different from each other or not. For this purpose, first the total accruals are calculated for every year. The total accruals are defined as below (Mostafa, 2017);

$$Total\ Accruals_{it} = Earnings_{it} - Cash\ Flows\ From\ Operations_{it}$$

Total accruals (TA) are consisted of non-discretionary (NDA) and discretionary accruals (DA). For calculating discretionary accruals, Modified Jones Model (1991) is used. In the Modified Jones Model, TA_{it} is total accruals for companies i in year t; A_{it-1} is total assets for companies i at the beginning of year t; ΔREV_{it} is the change in revenues for companies i in year t; ΔAR_{it} is the change in receivables for companies i in year t; PPE_{it} is the net property, plant and equipment for companies i in year t; and ε_{it} is residual and these residuals are equal to discretionary accruals of each companies for the accounting period (one year).

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1\left[\frac{1}{A_{it-1}}\right] + \alpha_2\left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}}\right] + \alpha_3\left[\frac{PPE_{it}}{A_{it-1}}\right] + \varepsilon_{it}$$

After obtaining discretionary accruals from the Modified Jones Model above, we examined the difference between the discretionary accrual of high performance and low performance companies by using one sampled t-test and Wilcoxon test. Test results are summarized in Table 2.

Table 2. One Sampled T-Test and Wilcoxon Test Results

		Mean	**T- Stat**	**P**
T-Test	High Performance	-0,007510	-4,024	0,000
	Low Performance	0,007304		
		Mean	**Z – Stat**	**P**
Wilcoxon	High Performance	-0,007510	-4,845	0,000
	Low Performance	0,007304		

According to the results of both analyzes, the discretionary accruals of high and low performance companies are significantly different from each other. In other words, low performance companies are engaged in earnings management by using higher discretionary accruals that increase reported earnings.

After confirming that there is difference between high and low performance companies, value relevance between market adjusted returns and earnings is analyzed by using two separate models. For completeness, we first examined value relevance of earnings for the whole sample, and then investigated the impact of earnings management on value relevance of earnings. Model 1 is used to determine the relation between annual stock returns and the level and change of earnings as previous research such as Easton and Harris, 1991; Strong, 1993; Lev and Zarowin, 1999; Francis and Schipper, 1999; Hellström, 2006; Ragab and Omran, 2006; Filip and Raffournier, 2010; Mostafa, 2017.

Model 1: $R_{it} = \alpha_{0t} + \alpha_{1t}\ \Delta E_{it} + \alpha_{2t}\ E_{it} + \varepsilon_{it}$

where R_{it} is annual market adjusted returns for companies i in year t, ΔE_{it} is the change in earnings and E_{it} is the level of earnings for companies i in year t. To reduce the heteroscedasticity problem, we divided the change and level of earnings by beginning of the fiscal year market value of equity. Earnings response coefficient is represented by the sum ($\alpha_{1+}\ \alpha_{2}$) which combines the estimated coefficients of the change and level of earnings. If this coefficient is positive and significant then the earnings have value relevance.

In Model 1 and Model 2, panel data regression model is used. Because it allows to estimate both cross-sectional and time-series, panel data analysis enables to use more data and increases87 degree of freedom in estimates so that it makes economic estimates more efficient. In estimating coefficient in panel data analysis, 3 main methods are used; pooled regression model, fixed effect model and random effect model (Greene, 2012: 346). It was tested whether the data set is suitable for pooled regression model by using Breusch–Pagan test and it was determined that pooled regression model would not be appropriate. Then, it was tested which of the fixed effect model and random effect model would be suitable by Hausmann test. If the chi-square value is less than 5% then fixed effect model, if not then random effect model would be suitable. The result of Hausmann test indicated that fixed effect model should be used. The results of Hausmann Test are shown in Table 3.

Table 3. Hausmann Tests Results

Dependent Veriable		Chi-Square	P
Adjusted Market Return (MAR)	Model 1	21.4897	0.0000
	Model 2	87.9249	0.0000

The series should be stationary so that the results of regression analysis are reliable. For this purpose, we have investigated existence of stationarity by using Levin-Lin-Chu (LLCt), Im-Pesaran-Shin (IPSw), Augmented Dickey-Fuller (ADF) joint unit root testing procedures. Test results reveal that the series used in data set are found to be stationary for the analysis period.

Table 4. Stationarity Tests Results

	Levin, Lin & Chu Test		Im, Pesaran and Shin W Test		ADF - Fisher Chi-Sq Test	
	Stat	P	Stat	P	Stat	P
DEARE	-67.88	0.0000	-26.13	0.0000	612.79	0.0000
EARE	-55.18	0.0000	-12.96	0.0000	401.85	0.0000

We examined the variance inflation factors (VIF) in order to determine the whether there is a multicollinearity problem between independent variables and VIF scores stated that no multicollinearity problem in models.

Test results of Model 1 is presented in Table 5.

Table 5. Model 1 Panel Data Analysis Results

	Coefficient	t stat.
ΔE	-0.078	-3.086***
E	0.147	3.972***
*** Significant at 1%		

Panel data regression analysis results show that the change in earnings and earnings have significant effect on market adjusted returns. Additionally, because the total of the two coefficient is greater than zero ($\alpha_{1+}\ \alpha_{2}$), there is significantly positive relation between earnings and market adjusted returns, which is consistent with the findings of Mostafa (2017). In other words, there is significant and positive value relevance between the earnings and market adjusted returns of the Turkish listed manufacturing companies.

After obtaining results about this relationship in Model 1, it was examined whether there is a difference between high performance and low performance companies by testing Model 2, which is;

Model 2: $R_{it} = \alpha_{0t} + \alpha_{1t}\ \Delta E_{it} + \alpha_{2t}\ E_{it} + \alpha_{3t}\ (D_{it} \times \Delta E_{it}) + \alpha_{4t}\ (D_{it} \times E_{it}) + \varepsilon_{it}$

To determine high and low operating performances a dummy variable (D_{it}) is used. "0" means high performance, "1" means low performance. The results of panel data analysis is summarized in Table 6.

Table 6. Model 2 Panel Data Analysis Results

	Coefficient	t stat.
ΔE	-0.031	-0.600
E	0.126	1.539
D*ΔE	-0.061	-1.028

D*E	0.029	0.316

The reliability of the results of the estimated panel data regression model requires to test the assumptions of model. For this purpose, autocorrelation between error terms of models is examined by Woolridge (2002) test and heteroscedasticity of error terms of cross section units is investigated by Modified Wald test. These test results reveal that autocorrelation and heteroscedasticity problems were found to be non-existent.

As shown on Table 3, none of the independent variables is significant even at 10%. According to these results, there is no difference in value relevance in market adjusted returns and earnings management practices of Turkish listed manufacturing companies with respect to their operating performance. In other words, there is no difference between high and low performance companies' market adjusted returns, which is different from the findings of Mostafa (2017).

4. Conclusion

This paper is the one of the first studies about value relevance and earnings management in Turkish listed manufacturing companies. By using data from Borsa Istanbul, this paper analyzed whether opportunistic earnings management practices affect value relevance of earnings. The relation is represented by earnings response coefficient of return earnings relation.

According to our findings, the low operating performance companies opportunistically increase the reported earnings upward. The purpose of this earning management practice is to hide their low operating performance. In other words, operating performance affects earnings management practices. Than we investigated the relationship between earnings and market adjusted stock returns. We analyzed the earnings of whole sample (without distinguishing between low and high performance companies) and found that earnings of Turkish manufacturing firms are value relevant. Then, we analyzed whether there is a difference in the value relevance of earnings of low and high operating performance firms. We found that there is no difference in the earnings response coefficient of earnings of low and high performance companies. Because there is no difference between the stock returns of low and high performance firms, it can be deduced that low performance firms employ earnings management practices so that their stock returns become similar to the high performance firms'. It can be suggested that, investors take into consideration the earnings rather than firm performance in their investment decisions and stock prices are affected by these decisions. It can also be argued that investors consider the earnings, which can be easily manipulated than the more objective measure of cash flows from operations, more reliable.

According to the findings of this paper, the managers of low operating performance firms use earnings management to increase their earnings, which is inconsistence with prior research. However, there is no difference in earnings management practices between the value relevance of earnings for both low and high performance companies.

This study demonstrates that Turkish manufacturing firms employ earnings management practices and investors regard the earnings rather than cash generating ability of companies. Besides, companies may use earnings management practices to increase the demand for their shares in the stock exchange.

This study's results give only a general idea about the existence of earnings management and its effect on the value relevance of earnings in the listed Turkish manufacturing firms. The reason for that is this study does not examine the effect of earnings management under specific incentives or events, similar to those examined in developed countries, on the value relevance of earnings. Therefore, future research in Turkey regarding this field of study could consider these issues. In addition, for further research, the time period may be extended and all non-financial companies may be included in the sample. In addition to that, the results of diffident sectors can be compared.

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