

Earnings Management and Stock Market Return: An Investigation of Lean Against The Wind Hypothesis

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Abstract. *This study attempts to investigate the “lean against the wind hypothesis”. For this purpose the relationship of earnings management to that of the aggregate stock market return was investigated. Data for the year 2005 to 2009 was examined and Panel Data techniques were applied on the data set. F-statistics were used to check for appropriateness of the model, Housman test were used to finally decide for fixed effect model. Results of the paper were against the existence of lean against the wind behavior of the firms towards the aggregate under valuation of stock market returns. These Results were in favor of the past study of Cohen and Zarowin (2011).*

Keywords: *Earnings Management, Discretionary Accruals, Modified Jones Model, KSE*

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1. Introduction

A well-documented fact that managerial practice to distort the true financial performance of a company is the earnings management. This is done for the purpose of avoiding earnings decreases and losses Burgstahler and Dichev (1997). For this purpose manager tries to adopt the accrual based accounting system. Accrual based accounting system allows managers discretion in the financial statement in order to not only manage the earnings but also to express the better firm performance. The reason that accrual based accounting system is used is simply that income and expenses are immediately reported as they occurs. (Chung, Sheu & Wang 2009).

Managers adopts the “Lean against the wind” behavior in managing earnings upward in order to balance against aggregate under-valuation exists in the stock market, by examining that how firm specific measures of earnings management such as discretionary accruals correlates with the aggregate market condition. Existing literature on lean against the wind hypothesis in earnings management is enriched with both the views in favor of existence of this behavior of listed firms. See for example Kang, Liu, and Qi (2010) as well as against it. Literature that opposes this hypothesis justifies their view by giving two basic reasons. Firstly Earnings increasingly reflect news with a lag relative to stock prices. Second the asymmetric way of good and bad news that earnings management reflects.

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These two reasons are also providing evidence even for the declining relationship of earnings management and Stock market return. See for example, Francis and Schipper (1999), Ely and Waymire (1999), and Ryan and Zarowin (2003). All these studies were limited to provide these two reasons only, and were unable to find the fundamental links that would explain these fundamental relations that exist between earnings management and stock market return. This is because their results were consistent with the fundamental explanations as cited by Cohen and Zarowin (2011). Studies also favor the leaning against the wind as a possible explanation for the relationship between earnings management and stock market return.

The basic aim of this paper is to examine the very existence of relationship between the earnings management practices and its impact on the aggregate stock market return, along with that this paper further investigates the lean against the wind hypothesis of earnings management and stock market return. The paper also focuses on the vary fundamentals of earnings management as drivers of accruals to get to the basic explanation for this relationship. Adding to the existing literature in a way that how firm specific determinants of earnings management (EM) contributes to the aggregate market return. For this purpose discretionary accruals are calculated and are used as a proxy for earnings management and Average yearly stock index return is used in order to examine the impact of these earnings manipulations on stock return.

The rest of the paper is segmented in a way that this section is followed by literature review of the paper, data and methodology, empirical results, discussion and conclusion respectively.

2. Literature Review

This section provides a brief overview of the empirical work done on earnings management, issues relating to earnings management, its implications and its relevance to the stock market return specifically in the light of lean against the wind hypothesis.

Previously a lot of work has been done on earnings management. Schipper (1989) provides a way about the research design implications in

earnings management research in their article entitled with "Commentary on Earnings Management". Along with that they also describes the connection of earnings management research with other accounting research. Schipper (1989) focuses on three broader issues in earnings management research, firstly the basic objective of earnings management, secondly the issues that give rise to the earnings management and lastly the designing of empirical tests in earnings management.

Before going for definition of earnings management it's important to discuss the accrual based accounting techniques that managers uses to calculate discretionary accruals which is used as a proxy to measure earnings management. Dechow and Skinner (2000) Citing the FASB 1985, SFAC No. 6, para. 139, argues that accrual accounting records the financial effects on an equity of transactions and other events using accruals, deferrals, and allocation procedures with an aim of relating revenues, expenses, gains and losses to reflect an equity performance during the period instead of merely mentioning the cash receipts and outlays of an equity.

A number of definitions of earnings management are present in the existing literature. Healy and Wahlen (1999) presents the possible explanation of earnings management that occurs when managers use discretion in financial statements by structuring the transactions in such a way to mislead financial statements users. Furthermore, Ducharm, Malatesta and Sefcik (2008) explains that under Generally Accepted Accounting Principles (GAAP), managers tends to choose among different accounting policies that are helpful in effecting the reported earnings. They also tries to explain that the pure earnings management techniques that are available to managers are that of acceleration or deferral of revenues and expenses, revisions of estimates and choice of accounting methods.

Detecting earnings management remains an issue for decades in the past. Dechow, Sloan and Sweeney (1995) evaluates different accrual based models in order to detect earnings management. Providing evidence of discretionary accrual as proxy for earnings management in all the models they evaluate. Their result give insights of using

some control variable in investigating about earnings management such as firm performance. Levitt (1998) called the earnings management as the gray area in accounting where earnings reports reflect only the desires of managers instead the performance of company. The former SEC chairman named earnings management as Accounting Hocus-Focus, where financial managers exploit the flexibilities of financial reporting to meet earnings expectations.

Recently, Tahir and Nisar (2009) analyzes data from 1993-2000 and provides evidence that managers tends to manipulates earnings that meet or beat the analysts forecasts. Furthermore earnings management was entitled as the windows dressing of financial statement (Mithani 2010).

A number of models were presented in different articles in the past to claims the best tool of detecting or measuring earnings management through discretionary accruals. Peasnell, Pope and Young (2000) documents two models used in the past to calculate discretionary accruals, these includes the standard Jones (1991) and modified-Jones (1995) and presents another model entitled with the name of margin model.

Studies on earnings management proposed modified cross sectional jones (1995) approach as best and most widely accepted method to measure discretionary accruals for determining earnings management. Shah, Yuan and Zafar (2009) compare jones (1991) and modified jones (1995) models and relies on using modified jones as income statement approach to analyze cross country data for 7 years of sample.

Earnings management is so widely used practice in the organization that benefits managers as well as organizations themselves. Healy and Wahlen (1999) present a brief overview of the existing research on earnings management and also discussed its implication in their research article. Healy and Wahlen (1999) not only explains the existing work but also tried to gives future directions on fruitful areas of earnings management.

A number of studies tries to investigate the impact of earnings management on stock market returns, and proposed “leaning against the wind”

behavior of firms towards the market wide undervaluation. Sloan (1996) provides the foundation for the leaning against the wind hypothesis by concluding that the relative magnitude of accruals and cash in earnings shows the persistence of earnings performance and also provide evidence that stock prices acts in accordance with the managers fixation of earnings.

Later on, Myers, Myers and Skinner (2006) examine 746 firms and present how various tools of earnings management are used by managers in order to help their firms sustains and extends their earnings strings. The need to investigate the existence of relation between discretionary accruals and stock market return is one of the main issues for both the practitioners and academicians in the past.

Recently, Hirshleifer, Hou and Teoh (2009) proposed possible explanation of their results as “leaning against the wind” by firms while investigating the relationship of the firm level accruals and cash flows with that of aggregate market return, using a sample of 40 years data, their results were in favor of time series prediction of accruals used to measure earnings management and also a negative results in favor of cash flows.

Later on Kang et al (2010), based their studies on the leaning against the wind hypothesis in earnings management and provides evidence in favor of Leaning against the wind behavior of the firms. Suggesting that the aggregate discretionary accruals represents the aggregate fluctuations in earnings management and makes the managers of the firms to time the aggregate market in order to manage the earnings.

Furthermore, Cohen and Zarowin (2011), documents the lean against the wind behavior of firms to behave in a particular way against the aggregate undervaluation in stock market return. There results were against the hypothesis of leaning against the wind in earnings management literature. Cohen and Zarowin (2011), states further if firms were to lean against the winds then every firm must have a positive discretionary accruals when markets are down (wind).

3. Data and Methodology

2009. For the purpose of analysis, the financial statements of these companies for the sample period were collected from state bank of Pakistan 5yearly analysis report. This helps to calculate the proxy for earnings management as Discretionary accrual and also Non-discretionary Accrual were used for analysis purpose. The KSE monthly stock index Data was collected for the sample period from the yahoo finance database. That was used to calculate the average stock return for each year separately.

On the basis of discussion in the literature review section of this paper, this paper hypothesized that

H₀: Earnings management has Impact on stock market return.

Average stock return year_t This variable is obtained by simple averaging out the monthly stock return for 5 years from 2005-2009.

Earnings management. Monthly stock index data was collected for the purpose of calculating the average stock return of the year, firstly return was calculated by using

$$R = \ln(X_t/X_{t-1})$$

Whereas R represent the return and X_t represents the current day index and X_{t-1} represent the previous month stock index. These returns were then average out for the year_t.

For obtaining earnings management variable, this paper adopts the modified Jones (1995) model. discretionary accrual is used in this paper as a proxy to determine the earnings management. For this purpose variables obtain from annual balance sheet analysis of the firms were total assets, total fixed assets, total sales, Total receivables, net income for both the current year and previous year time frame for each year. In order to calculate total accruals, cash flow form operation is firstly calculated by using

$$CFO_t = EBIT_t + Dep_t - Taxes_t$$

Where as CFO_t represents the cash flow from operation for the year t, EBIT_t represents the earnings before interests and taxes, Dep_t

A sample of 73 KSE Listed companies was used with the time frame of five years from 2005 to represents Depreciation of the year and T_t represents the taxes for the year t.

Now using cash flow from operation, total accruals is obtain by subtraction cash flows from operation from net income of the year.

$$TA_t = NI_t - CFO_t$$

Now next step is to calculate the non-discretionary accruals, for this purpose total accrual is regressed upon the difference between change in sales (revenues) and change in receavables and change in total fixed assets. All the variables are denominated by the lag value of total assets. The formula used here is

$$NDA_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 \left(\frac{\Delta REV_t - \Delta REC_t}{A_{t-1}} \right) + \alpha_3 \left(\frac{PPE_t}{A_{t-1}} \right)$$

Where as NDA_t represents the non discretionary accruals for the year t. ΔREV_t and ΔREC_t represents the change in revenue and change in receivables for the year t. and PPE_t represents the plant and property equipment of the year t. now from non discretionary accruals discretionary accruals are calculated, which is obtained using

$$DA_t = TA_t - NDA_t$$

Where as DA_t represents discretionary accruals for the year_t, TA_t represents total accruals for the year t. and NDA_t represents non discretionary accruals for the year_t, along with these basic variables for the model, this paper attempts to include the influence of firm size which is calculated by taking the log of total assets of a cross-section unit_t for the year t and also cash flow from operations which is calculated above in the calculation process of discretionary accruals. Both these two variables cash flow from operation denoted by CFO and Firm size denoted by Size are used as control variable.

Empirical Analysis

Panel data techniques were used to investigate data for research in the paper, for this purpose data was firstly arranged in pool form, in which each cross section unit data was gathered together alphabetically. Then all the three models of panel

data techniques were applied i.e. common effect model, fixed effect model and random effect model.

F-statistics were used to decide between common effect model and fixed effect model. The null hypothesis of f-statistics is that common effect model should be used for data. And the decision criteria for F-statistics is the comparison of F-statistics to the critical value 2. The formula of F-statistics is

$$F = \frac{(R^2_{FE} - R^2_{CC}) / (N - 1)}{(1 - R^2_{FE}) / (NT - N - K)}$$

Whereas R^2_{FE} and R^2_{CC} represents the coefficients of determination for fixed effect model and common effect model respectively. N represents the number of cross section, K represents the no of explanatory variables and T is the number of years for which data was collected. Results obtain from this formula were infavor of fixed

effect model because the F-statistical is 3.217 compare to the F-critical which is 2. Rejecting null hypothesis and alternatively leads to the selection of fixed effect model. Now the next step arise which is to decide between fixed effect model and random effect model, so for this purpose the famous Housman test was adopted.

Housman test is used to decide between the validity of fixed effect model and random effect model for the dataset. The Housman test has a null hypothesis of applying random effect model for the dataset, and if the values were significant in the results we accept null hypothesis, but here in this case running for Housman test the results indicates that the probability value obtained here is .904 which is greater then the P-critical value which is .05. indicating for rejection of null hypothesis. And alternatively Fixed effect model was selected as an appropriate model for analyzing the data set. Table 1. Shows results of the Fixed effect model.

Table 1. Fixed Effect Model

Variable	B	T-statistics	P-value
DA	3.73E-06	.097	.922
CFO	2.21E-08	.0095	.992
SIZE	.0032	1.808	.071
R ²	.0112		

The above table explains that Discretionary accruals has no impact on the aggregate stock market return having a probability value of .922 > .05. Similarly the Cashflow from operation is also insignificant with the p-value .922 > .05 and same is the case with the firm size which also has no impact on aggregate stock market return with a value of .071 > .05.

4. Discussion

As for as the above results are concern, all the variables used in the study are showing insignificant results, which means that discretionary accruals which is measure of earnings management, cash flow from operation and also size of the company has no impact on the aggregate stock market return. So the proposed hypothesis of the study which is that earnings management has impact on stock market return is rejected. In other words, the statement that firms show lean against the wind behavior by

managing earnings upwards for managing the aggregate undervaluation in the stock, are not practically observed in the Karachi stock exchange. These results were obtain in the presence of control variables such as size of the cross section unit used in the paper and Cash flow from operation which plays a significant role in the calculation of discretionary accruals. The findings of this paper are consistent with past studies such as Cohen and Zarowin (2011).

5. Conclusion

From the above empirical evidence and discussion this paper concludes that there is no relationship between earnings management and aggregate stock market return, summing up all this paper follows the modified Jones (1995) model for discretionary accruals in order to measure earnings management and yearly wise average out stock returns were used. Data was arranged for test in the form of pool. Common,

fixed and random effect models were implied in the presence of control variables cash flow from operations and size of the company. Later on F-statistics were used to check for appropriateness and to decide whether common effect model or fixed effect model is used. Later on decision was in favor of fixed effect model, that leads to check for Housman test and results were again in favor of fixed effect model. Results of fixed effect models were reported in the paper and concludes that firms do not actually lean against the wind in the market. And their earnings management has nothing to do with the aggregate market undervaluation. Hence the lean against the wind hypothesis of earnings management is rejected.

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