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Is Accounting Information Produced by the Firms any Value Relevant?

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Abstract

This research is motivated by dearth of research on the impact of accounting information produced by Pakistani companies on their share prices and is aimed at highlighting the useful ness of accounting information in investment decision making by investors. Top five companies from each of the sectors, excluding the financial services sectors listed on Pakistan Stock Exchange are studied for the years 2006 to 2016. Panel data settings are used to study the impact of accounting information i.e., Earnings on Returns. Three control variables namely, size, profitability and industry type are added in Extended returns model to capture the impact of accounting information on returns. The results show that accounting information i.e., Earnings and Changes in Earnings and profitability are value relevant but the size and industry type have no impact on value relevance.

Key Words: *Value Relevance, Accounting Information, Earnings on Return*

1. Introduction:

Capital markets provide a platform for investors to raise the required funds and diversify any risk faced. Brown (2011) sees the twin factors i.e., liquidity and efficiency, as the fundamental indicators of the growth of any economy. Bohl et al. (2020) argue that in a perfectly efficient market, any company's financial performance will be truly reflected by its share prices. Any entity's position and accuracy of performance reported is heavily dependent on the quality of accounting information produced. Okafor, Anderson and Warsame, (2016) claim that Earnings reported by the entity is a viable summary of the financial information available about the firm. According to them, earnings figures are presented in the entity's financial statements and are produced in conformity with prevailing accounting laws. In modern literature the Term "Value Relevance" confirms to this effect. Brown et al. (1999); Outa et al. (2017) see the value relevance as the change in share prices as a result of changes in accounting numbers.

The quality of accounting information produced depends on the quality of modern international reporting standards that are being adapted and followed by majority of the countries around the globe (IFRS Foundation, 2019). Differences in reporting standards being followed naturally result in movement in share prices and can influence investor's decision-making process. Dasgupta et al. (2010); Hameed & Ashraf, (2009) claim that modern accounting regulations are aimed at producing high quality accounting information that is transparent and free from material errors then investors are in better position to use that information for investment decisions.

The adaptive market hypothesis states that it is possible to predict changes in share prices and evolution in investor's behavior and institutional policies are indicators of stock market performance (Lo, 2004; Trung & Quang, 2019). The evolution of accounting information produced as a result of evolution in accounting laws can be categorized as one such evolution in institutional practices that influences the investor's decisions in shares of any company. This study is aimed at estimating the value relevance of accounting information produced by the best performing companies in Pakistan, incorporating all the relevant factors that will be discussed later in this study.

Hiremath and Kumari, 2014; Lo, (2004) have been the leading critics of Efficient Market Hypothesis (EMH) developed by Fama, (1970) on the grounds that Perfectly efficient markets are virtually non existent especially in less developed economies as anomalies do exist and these anomalies can't be neglected as immaterial market anomalies. Also, the much-debated assumption of randomness of returns has been called into question as an important component of share prices, meaning risk is predictable. Such criticism on EMH has given way to Adaptive Market Hypothesis, which states that firms' policies, strategies, and evolution of a firms' behavior are the constituents of dynamics of stock markets. The Adaptive market hypothesis suggests that behavior of stock market is affected by evolutionary principles and share prices are affected by evolutionary practices adopted by the firms to present the relevant information. Tran and Leirvik, (2019) claim that availability of arbitrage opportunities ensures that investor behavior and institutional standards can predict the stock returns close to natural selection. Market Participants' evolution and innovation are fundamental to survival of stock markets.

The accounting information produced as a result of evolution in Financial Reporting standards is categorized as an innovation that has the potential to be value relevant and affect the movement in share prices. Aveh et al. (2017); Soewarno and Utami, (2010) claim that accounting information is value relevant if when released has the ability to reflect in share prices.

2. Literature Review

Lopes (2002) noted that researchers have begun to show some interest in studying the relationship between accounting information and its value relevance in emerging markets as so far, the main focus of studying this relationship has been on developed markets e.g., USA and Europe. It is evident that researchers in developing economies have somehow neglected this side of accounting information and value relevance and made very few attempts to study the relationship between value relevance and accounting information. But having said that some researchers have made valuable contributions towards this relationship (Yasas & Perera, 2019). Graham et al. (2000) studied the relationship between accounting information and value relevance with reference to Thailand's market and studied whether the accounting information does have an impact on value relevance and whether 1997 economic crisis affected this relationship. They concluded that accounting information by Thai companies had statistically positive impact on value relevance but this impact declined over time while surprisingly book value's explanatory power showed positive returns.

Chinese market was studied for the sample time period of 1991-1998 by Chen et al. (2001) to investigate the relationship between accounting information i.e. Earnings and Book values and share prices for listed companies in China. Showing consistent results for Returns and Price models they concluded that accounting information is value relevant when tested through Pooled cross-section and time series regression. In addition, according to authors, extent of value relevance is likely to be affected by four factors: size, liquidity, persistent behavior of Earnings and positive or negative Earnings. They found that firms with positive Earnings find the Earnings as value relevant vice versa. The Returns model showed contrasting results as it showed that smaller size firms have value relevant Earnings while the results of Price models show that Earnings of large size firms are value relevant. As far as Earnings persistence is concerned, they are not found to be value relevant as was the case with mature markets. Lastly liquid stocks are more value relevant which was examined through higher percentage of public shareholding.

Jermakowicz and Gornik-Tomaszewski (1998) studied the value relevance of accounting information i.e., Earnings with respect to 52 companies listed on Warsaw Stock Exchange in Poland for the sample time period of 1995-1997. Easton and Harris (1991) Returns model was used to study the relationship between Earnings and its value relevance. The investigated results show that for Polish listed firms whose financial statements were prepared in accordance with Polish accounting standards Earnings was a value relevant figure. The authors argue that their results were similar to those of Easton and Harris (1991) while studying the value relevance of accounting information produced by American firms. These results help the authors assert that Polish firms' accounting information is as value relevant as firms of any other developed market.

Companies in the Polish economy were studied during the sample time period of 1997-2008 to measure the impact of IFRS application on value relevance using Returns model with Earnings and Earnings yield incorporated by Dobija and Klimczak, (2007). 372 Consolidated Financial statements were used with observations numbering up to 856. The coefficients showed positive signs showing that introducing IFRS has resulted in improved value relevance of Earnings.

Capital markets of Southeast Europe (Ljubljana, Zagreb, Sarajevo, Banja Luka and Belgrade) were studied by Pervan (2012) through the sample of 97 firms to study the relationship of accounting information with its value relevance. Accounting information in all the above markets was value relevant with some variations. They also argued that transparency in annual reports is the essential element of value relevance of accounting information.

For the sample time period of 1998-2002, Ragab and Omran, (2006) studied the value relevance of accounting information i.e., Earnings and Book values by Easton and Harris,(1991); Ohlson and Shroff, (1992) respectively with reference to 56-59 listed companies per sample year from Egypt. Empirical testing of chosen model shows that accounting information produced in accordance with provisions of Egyptian According Standards showed value relevant results when both Returns and Price model were applied. Although results of Changes in Earnings and their value relevance were found to be insignificant. The authors try to find logic behind these results by claiming that probably investors in the Egyptian market are short term oriented and have tendency to weigh Earning as more important figure than changes in Earnings as they are not interested in holding investment for long term.

Desoky and Mousa, (2014) saw a positive link between accounting information i.e. Earnings produced as a result of application of IFRSs/IASs by companies listed on Abu Dhabi Stock Exchange. Easton and Harris, (1991) Return model was used to study the sample of 56 companies with 1934 monthly observations covering the time span of 2000-2006.

Alfaraih (2014) studied the relationship between accounting information and value relevance with respect to Kuwaiti stock market and concluded that accounting information was more value relevant when financial statements complied with all the mandatory disclosure requirements. Azeem and Kouser (2011) studied the relationship between accounting information and value relevance and concluded that more quality information is produced the more value relevant it will be for investors to help evaluate the investment decision.

In one of the very few researches of its kind in Pakistan, Shehzad and Ismail (2014) studied the value relevance of accounting information produced by Pakistani financial institutions as nineteen Banks' financial statements were studied for a time span of 2008 to 2012 to figure the value relevance of accounting information i.e. Earnings and Book values. They concluded using the pooled regression technique to conclude that accounting figures are significantly value relevant with Earnings as more value relevant than book values. Current study is not considering the financial services sector due to comparability issues and current study has gone one step further to use extended returns model to gauge the effect on accounting information on value relevance.

2.1 Hypothesis

Based on the above literature review, the following factors were identified as affecting the value relevance of accounting information. Collins et al. (1997, 1999) and Barth et al. (1998) earning sign be it positive or negative while, on the other hand Barth et al. (1998); Hellstrom (2006) identified category of Industry as the main factor and in further researches, Babalyan (2001) identified firm size as the main factor affecting the value relevance of accounting information. Based on above discussion, this research has developed five hypotheses, namely

H1= Accounting information i.e., Earnings has positive impact on value relevance.

H2= Accounting information i.e., Changes in Earnings has positive impact on value relevance.

H3= Profitability of the firm has positive impact on value relevance.

H4= Industry in which the firm operates has positive impact on value relevance.

H5= Size of the firm has positive impact on value relevance.

3. Research Methodology

Time frame chosen for this study ranges from year 2006 to 2016 as this time frame witnessed one of the most volatile periods in the history of Pakistan as in the later part of the first decade of 21st Century Pakistan economy was marred by the adverse geo political situation of the region and then economy rose to witness the best performance of PSX in the 2nd decade of the 21st century. Top 5 five companies with respect to market capitalization from each of the sectors listed on PSX excluding the financial services sectors were chosen as they were perceived as the best representative of the whole population i.e. all the firms listed on PSX. Data was mainly collected from Security and Exchange Commission of Pakistan (SECP), State Bank of Pakistan (SBP), PSX website, and respective companies' websites. Extended Return Model was extension of Easton and Harris, (1991) Return model was used to regress the chosen independent variables e.g., EPS, Changes in EPS over the sample time period, firm's Size, type of Industry and firm's Profitability with the Independent Variable i.e., Returns to estimate the value relevance of Accounting information. The equation was developed as

$$R_{it} = \beta_0 + \beta_1 \left| EPS_{it} \right| / P_{it-1} + \beta_2 \Delta \left| EPS_{it} \right| / P_{it-1} + \beta_3 SIZE_{it} + \beta_4 LOSS_{it} + \beta_5 IND_i + \varepsilon_{it}$$

Where,

Rit= Returns for 12 months up to filing of accounts date after the year end +net dividends/share-share price 12 months before the filing date/share price 12 months before the filing date.

Pit-1= share price 12 months before the filing date

EPSit/Pit-1= EPS of the firm i at time t excluding the effect of share price of the firm i at time t-1

ΔEPS/Pit-1= Change in EPS from t-1 to t excluding the effect of share price of the firm i at t-1

t= 2006-2016

Size= log values of total assets for every year2006-2016

Profit= $\frac{net\ profit}{average\ equity}$ for every year2006-2016.

Di= Dummy for all industries to be expanded later

1 if a company belongs to that sector 0 for otherwise. for every year2006-2016.

$\varepsilon it = other\ information.$

Loss was used as a profitability replacement because no of loss making firms were lower in number so it would provide meaningful addition into equation.

4. Results and Analysis

Regression Results for extended Returns model are presented in Table 1 below with Annual Return as Dependent variable.

Table 1. Regression Results

Variable	Coefficient	t values
Intercept	-.182***	-2.862
$\boldsymbol{EPS_{it}/P_{it-1}}$	1.977***	9.967
$\Delta\ \boldsymbol{EPS_{it}/P_{it-1}}$	.467***	4.808
Log Size	-.027	-1.216
Loss	-.187**	-2.234
Electricity Sector	.61	1.922
Pharmaceutical	-.0121	-.962
Engineering	.0029	.162
Oil and Gas	-.033	-1.232
N		**814**
$\boldsymbol{R^2}$		**.292**
Adj,$\boldsymbol{R^2}$		**.274**
F.Statistics		**42.122**
P value (F stats)		**.000**

***** is significant at .01 level, ** is significant at .05 level. Heteroscedasticity and Autocorrelation were dealt with through Newey-West (1987)**

Control variables of profit/loss, Industry and size are incorporated into returns model mainly to capture their potential impact on value relevance of accounting information i.e. Earnings and changes in Earnings and as a result following extended returns model was formed

Table 1 shows the regression results for extended returns model. The (adj R^2 of 27.4%, *F stats at 42.12 and p < .01)* show the strong explanatory variable of the extended returns model. The results of the extended returns model show that coefficients of both the earnings and changes in Earnings are significant at $P < .01$. The loss coefficient was negative at $p < .05$ which means that although the results are significant but negative sign shows that profit making firms' accounting information is more value relevant than loss making firms'. The results of all the industries were insignificant and so was the case with control variable of size showing that type of industry and size of the organization doesn't affect the value relevance of accounting information.

4.2 Discussion

These results are in line with a recent study in same economic demographics as Pakistan by Alfaraih (2014) who investigated the value relevance of accounting information with reference to Kuwaiti companies. These results show that investors in Pakistan have started taking long term approach as they are giving equal importance to how the earnings figures are changing as to earnings itself. This implies that in Pakitan economy due to lack of other sources of information to assist investors in their investment decision making, investors are placing more and more reliance on accounting information produced in financial statements. This also proves that although profit figure is important for investors in their decision making but they are indifferent as to what is the size of the organization and what type of industry they operate in.

5. Conclusion:

The research hypothesized that five variables namely Earning Per Share, Changes in Earning per share plus three control variables Profitability, Size and Industry type affect the value relevance of accounting information. Easton and Harris, (1991) Extended Return models were used to regress the five independent variables on Dependent variable i.e., Returns. Results showed only EPS, Changes in EPS and Loss variables with negative sign shows significant figures meaning that EPS, changes in EPS and Profitability of the firm makes accounting information as value relevant and size and industry showed insignificant results showing that size and industry type has no effect on value relevance of Accounting information. As a result the first three hypothesis generated for this study, HI, H2 and H3 are accepted while the last two hypothesis H4 and H5 are rejected based on results.

5.2 Implication of the study

The major implication of this study is that Extended Returns model results' show that in order to make their investment decisions during the sample time period of 2006-2016 the investors relied heavily on available accounting information i.e. Earnings and changes in Earnings. These results showed that Earning's value relevance is higher than countries with similar economies like Pakistan emphasizing that Pakistani investors have tendencies to rely heavily on financial statements. These tendencies can be associated with lack of other credible information sources available to shareholders to base their investment decisions upon. This leaves the research with conclusion that financial statements are more important document in Pakistan than it is commonly perceived in less developed economies therefore, the other developing economies that have similar economic features to Pakistan will be able to use this as a guiding or policy document to strengthen the role of accounting profession in ensuring good quality financial statements are produced and investors are able to rely on that accounting information in order to make good quality investment decision.

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