As one of the basic components of economic growth and development in every country, the capital market is responsible for optimal allocation of capital. For the correct guidance of the decisions along the optimal allocation of capital, information has a main role and financial reports are of the most important information resources. So, in the present study, effort is on studying the effect of competition in the company’s product market on the quality of financial reporting. Thus, the cash operational flow expected for evaluating the financial reporting quality is used. In this regard, 125 companies have been studied by applying the conditions (elimination method) in Tehran Stock Exchange during 2001 to 2008. For the hypothesis test, the correlation coefficient and the linear regression test methods have been used with the help of SPSS. Results show that there is an inverse relation between the competition in the company’s product market and the quality of the financial reporting.

Key words: Financial reporting quality, competition in the market, sales, cash flows.

INTRODUCTION

The paper stumbles on the value-relevance of accounting information in the Karachi stock market pioneering the exploration in context of Pakistan-based companies. Financial information plays a vital role for different kind of users of financial reports as indicated by Chen et al. (2001). Information is considered value relevant if it truly represent the value of company (Francis and Schipper, 1999), help an investor to make investment decision and to enable s financial manager to monitor performance of a company (Young and Byrne, 2001). 

Examination of portfolio decisions by Hong and Kim (1998) suggests improvements while using the Ohlson (1995) model for Japans’ firms. Various attempts have been made to explore the issue of value relevance (Lin and Chen, 2005). Kothari and Zimmerman (1995) find that company fundamental value is absolutely link with the share price of the company. Researchers have used two different perspectives while studying the value relevance of accounting information. The techniques include relative and incremental approaches. One of such techniques is selected on the basis of the statistic in the empirical results. Incremental approach is used to measure the incremental impact of some variables as compared to other variables. The relative approach relates comparison of measures providing better information as compared to others as suggested by Holthausen (2000).

Residual income valuation model is an originator of Ohlson model stating that investor’s price securities is the expected present value of future dividends. Ohlson (1995) model is used to measure the value relevance of accounting information. The approach takes share price as the dependent variable affected by the book value per share and earnings per share. Two different estimation strategies are found being followed in the literature to estimate the value relevance using accounting information. First approach is called the price and the second is known as the return model. The paper follows the price
model as Kothari and Zimmerman’s (1995) argue that earnings coefficient is less biased in price model as compared to return model.

LITERATURE REVIEW

Most of the research in the area is based on the data on US companies’ to measure the value relevance (Lev, 1989; Bernard and Stober, 1989) presented a good review of various studies asserting the relationship of accounting information with security prices in the America. Kothari and Zimmerman’s (1995) examined that various studies have been conducted using different period of time under different accounting standard.

Ely and Waymire (1999) asserted that when they examined the relationship for two different accounting standard which include APB era (1960-1973) to the FASB era (1974-1993) using two different models, they find out that relationship of share price with book value per share and earnings per share is increasing when they apply price model and relationship is deteriorating when return model is used. Francis and Schipper (1999) found the same result when they use price and return model. In addition, they concluded that value relevance deteriorated due to high fluctuation in the market when they use return model.

Gjerde et al. (2011) found that if changes in economic value relevance are controlled then trend of overall value relevance has increased. Alex et al. (2004) found through empirical investigation that non information based trading is the main factor which deteriorated the relationship of share price and accounting information. Chen et al. (2001) concluded that these studies are fruitful for investor to evaluate the equity. Hand (2003) found that balance sheet, income statement and cash flow are value relevant when their accounts are in line with the share price of the company. Lev (1989) claimed that quality of information present in the annual reports of the company is the main determinate of value relevance. He used earning response coefficient as a proxy of quality of accounting information when he regress the company earning with the share price of the company. Lev and Zarowin (1999) asserted that there is a weak association between share price and earning. Ou and Sepe (2002) found that accuracy of future earning can be improve through enhancing the information contents of balance sheet when they examined the relationship between financial ratios (fundamental analysis), stock prices, and future earnings.

Research hypothesis

Hₐ: There is a positive relationship between share price and earnings.

H₀: There is a positive relationship between share price and book value.

RESEARCH DESIGN

The data

In this study, the companies listed in Karachi stock exchange for the period of 2006 to 2010 were used as a sample. We use the variable stock price, earnings per share, and book value per share. We use the data stream of banker Thompson. The sample size is 850 which is panel data.

Econometric strategy

OLS regression model for the pooled data is as:

\[ p_{it} = \beta_0 + \beta_1 V_{it} + \beta_2 E_{it} + \mu_{it} \]  

(3)

Where the estimates from such pooled regressions for panel type datasets are found to be biased so it is required to estimate either random effects or fixed effects regression models. The two models depend on the nature of the regressors to be included into the estimation. If the regressors are variable over time, fixed effects model is best representative and if there are regressors which are constant over time, random effects model is the best. Fixed effects model is given as:

\[ p_{it} = \beta_0 + \beta_1 V_{it} + \beta_2 E_{it} + v_{it} + e_{it} \]  

(4)

And the time demeaned model from the above regression is

\[ p_{it} - \bar{p}_i = \beta_1 (V_{it} - \bar{V}_i) + \beta_2 (E_{it} - \bar{E}_i) + e_{it} + \bar{e}_i \]  

(5)

On the other hand random effects mode is given as:

\[ p_{it} = \beta_0 + \beta_1 V_{it} + \beta_2 E_{it} + v_{it} + e_{it} \]  

(6)

Where \( v_{it} \) is assumed as random variable or i.i.d. random effects and \( \text{Cov}(x_{it}, v_{it}) = 0 \) and the estimates are consistent and can be
Table 1. Summary statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Results</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min.</th>
<th>Max.</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Overall</td>
<td>1.752141</td>
<td>4.680222</td>
<td>0.01</td>
<td>46.65</td>
<td>850</td>
</tr>
<tr>
<td>B</td>
<td>Between</td>
<td>4.438255</td>
<td>0.03</td>
<td>35.662</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>Within</td>
<td>1.5163</td>
<td>-14.1419</td>
<td>14.99814</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Overall</td>
<td>0.150412</td>
<td>0.459815</td>
<td>-2.74</td>
<td>5.46</td>
<td>850</td>
</tr>
<tr>
<td>B</td>
<td>Between</td>
<td>0.330543</td>
<td>-0.19</td>
<td>2.31</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>Within</td>
<td>0.320447</td>
<td>-2.96559</td>
<td>4.350412</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Estimation results.

<table>
<thead>
<tr>
<th>Dep. Var.</th>
<th>P</th>
<th>Pooled</th>
<th>Fixed effects</th>
<th>Random effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>0.888***</td>
<td>0.777***</td>
<td>1.113***</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>1.231***</td>
<td>0.865***</td>
<td>1.394***</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>0.717**</td>
<td>1.001***</td>
<td>0.563**</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>850.000</td>
<td>850.000</td>
<td>850.000</td>
<td></td>
</tr>
</tbody>
</table>

*, ** and *** indicates significance at 10, 5 and 1% respectively. Students’t-statistic is in parenthesis.

estimated from Equation (3) using the pooled regression but it is to be given in account that serially correlated error terms \( v_{it} \) and the standard errors are biased.

The following transformation is required to estimate the random effects model from the pooled regression:

\[ (P_{it} - \bar{P}_i) = \beta_0(1 - \theta) + \beta_1(V_{it} - \theta \bar{V}_i) + \beta_2(E_{it} - \theta \bar{E}_i) + \left[ (1 - \theta) v_{it} + (\varepsilon_{it} + \theta \varepsilon_i) \right] \quad (7) \]

where \( \theta = 1 - \frac{\sigma^2}{\sigma^2 + \sigma^2_z} \). If \( \theta \) is equal to 1, RE estimation is similar to FE, but if it is equal to 0, the RE estimation is similar to pooled regression. Normally, \( \theta \) is assumed to have value between 0 and 1. If \( \text{Cov}(x_{it}, v_{it}) = 0 \), it is appropriate and the results are efficient and in case where it is not 0, the RE estimator turns to be biased and the degree of bias depends on value to \( \theta \). If \( \sigma^2_z \gg \sigma^2_v \), then \( \theta \) is expected to be close to 1, and the bias in results to be low.

REGRESSION RESULTS

The model has been estimated using Stata 10.1 and user written commands for panel data regressions. The results for fixed effects model, random effects model and pooled regression have been reported in Table 2. The table shows that there is positive relationship between price and earnings per share. It is statistically significant at the 1% in the entire model but as the econometric theory suggests one cannot use the results from such models equivalently therefore we have to select one model from the available options.

The Hausman test statistic has been used to choose a first a model between pooled and panel regression and then between the fixed effects and random effects. We have used Sargan-Hansen statistic which has the advantage of overcoming the over identification restrictions in panel data estimation using fixed and random effects models.

The test statistic has a significant Chi-sq value of
### Table 3. Year regression results.

<table>
<thead>
<tr>
<th>Dep. Var.</th>
<th>P 2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>10.353***</td>
<td>10.385***</td>
<td>1.802**</td>
<td>3.749***</td>
<td>4.809***</td>
</tr>
<tr>
<td></td>
<td>(13.62)</td>
<td>(11.07)</td>
<td>(3.04)</td>
<td>(7.18)</td>
<td>(6.67)</td>
</tr>
<tr>
<td>B</td>
<td>-0.134</td>
<td>0.256</td>
<td>1.959***</td>
<td>1.582***</td>
<td>0.361</td>
</tr>
<tr>
<td></td>
<td>(-0.63)</td>
<td>(1.16)</td>
<td>(7.92)</td>
<td>(8.68)</td>
<td>(1.38)</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.011</td>
<td>0.317</td>
<td>0.021</td>
<td>0.178</td>
<td>0.214</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(1.15)</td>
<td>(0.06)</td>
<td>(0.77)</td>
<td>(0.69)</td>
</tr>
<tr>
<td>AIC</td>
<td>727.483</td>
<td>881.944</td>
<td>933.675</td>
<td>812.018</td>
<td>909.809</td>
</tr>
<tr>
<td>BIC</td>
<td>736.891</td>
<td>891.351</td>
<td>943.082</td>
<td>821.426</td>
<td>919.217</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.793</td>
<td>0.668</td>
<td>0.429</td>
<td>0.556</td>
<td>0.380</td>
</tr>
<tr>
<td>F</td>
<td>319.465</td>
<td>168.371</td>
<td>62.768</td>
<td>104.422</td>
<td>51.154</td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>n</td>
<td>170,000</td>
<td>170,000</td>
<td>170,000</td>
<td>170,000</td>
<td>170,000</td>
</tr>
</tbody>
</table>

*, ** and *** indicates significance at 10, 5 and 1% respectively. Student’s-statistic is in parenthesis.

212,947 with degrees of freedoms equal to 2 which indicates to use preferably the results from the fixed effects. It is similar to the traditional Hausman test but Sargan-Hansen statistic approach has its advantages over Hausman. Furthermore, we have used yearly regressions and the results have been reported in Table 3. The results also indicate that there is positive relation between the price per share and earnings per share and book value per share for most of the year except a few.

Table 3 summarizes the result of yearly as well as pooled regression of stock price against earnings and book value per share. The adjusted R² for the yearly and pooled regression indicates that earnings and book value per share explain the variation in stock prices about 79.3% (2006), 66.8% (2007), 42.9% (2008), 55.6% (2009), 38.0% (2010), and 79.2% (pooled). The results show that the regression coefficients of earnings per share and book value per share are significantly positive at p < 0.001 level in year 2006, 2007, 2008, 2009, 2010 and pooled. Thus, the results support hypothesis a and b that earnings and book value are value relevant because coefficients are positive.

### Conclusion

The objective of this study is to assess the value relevance of earnings and book value by using Ohlson’s model, which expresses stock price as a linear function of earnings, book value of equity and various accounting numbers for the purpose of assessing those numbers’ usefulness in equity valuation. The results of this study support the hypothesis that earnings and book value are value relevant. Result also show that value relevance are deteriorate with the passage of time but value relevance of book value per share increases with the passage of time. Future research need to investigate which factor deteriorates the value relevance of earning per share.

### REFERENCES


