

## IMPACT OF COMPLIANCE WITH INTERNATIONAL FINANCIAL REPORTING STANDARDS ON VALUE RELEVANCE

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### ABSTRACT

*The main objective of this research is to highlight the usefulness of the accounting figures produced as a result of compliance with all the mandatory disclosure requirements of financial reporting standards for investors in making their investment decisions. Top five companies from every sector listed on Pakistan Stock Exchange, apart from the financial services sector are studied for the years 2006-2016. An item-based index is created to calculate the compliance score for every selected firm and is regressed on the returns of every firm using the extended Returns model to estimate the impact of compliance with IFRSs/IASs' mandatory disclosure requirements on value relevance. Results show significant figures for Earnings, Changes in Earnings and Compliance index while the control variables of extended returns model, namely Profitability, Size and Industry, show insignificant results. This study is aimed at assisting regulatory bodies to strengthen their policies toward compliance with financial reporting laws to safeguard the interests of investors.*

**Key Words:** IFRS Compliance, Mandatory Disclosure Requirements, Value Relevance

### INTRODUCTION

The primary goal of firms' creation of detailed financial statements is to give shareholders and other stakeholders a detailed, relevant, and timely information so they may decide on their interest in the company with quality information (Brigham & Houston, 2021). The primary goal of all previous research on value relevance has been to answer the question, "Do financial statements prepared by companies provide internal and external stakeholders with any quality, relevant, and reliable financial information to enable them to make fully informed decision-making?" The thrust of accounting research over the past decade has been to determine if and to what extent accounting information is related to value in terms of stock price (Beaver, 2002).

The following qualitative characteristics should be present in financial statements for the users of accounting information (Karameta, Fejzaj, Mlouk, & Sila, 2021). Relevance and faithful representation are two essential characteristics, whereas comparability, verifiability, timeliness, and understandability are four enhancing characteristics (Alasbahi et al., 2021). These qualities are essential for producing quality accounting information and relevant financial statements (IASB Conceptual Framework 2015). According to the framework, the primary goal of financial statement preparation is to give financial information about the firm to assist investors, creditors, lenders, and other stakeholders in making wise decisions about investing their resources in the company (Conceptual Framework, 2015).

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Due to the inherent limitations of market imperfection in developing nations, accounting information's relevance has mostly lacked to demonstrate why it is important in these economies (Lopes 2002). This is mostly due to the fact that it is nearly impossible for share prices in these markets to represent all of the information due to a lack of information resources. In contrast to other information sources accessible in developed economies, Lopes (2002) views this shortcoming as the strength of accounting information for decision-making in emerging economies. The "Theory of Efficient Markets" by (Fama, 1970) explains that in a weak form of efficiency share prices tend to reflect all the publicly available information.

In their study of the value relevance of accounting information relating to Research and Development (R & D) expenditure in profit and loss statements and its capitalised portion in its Statement of Financial Position reported in compliance with relevant accounting standards. Tsaligkas and Tsalavoutas (2011) discovered that R & D capitalised has a significantly positive value relevance and vice versa for R & D expensed in the UK. Using earning as a stand-in for accounting information, Tsalavoutas (2012) once more attempted to investigate in Greece the relationship between accounting information reported in accordance with International Financial Reporting Standards (IFRSs) and its value relevance, but this time the results were insignificant. According to Kargin (2013), the implementation of IFRS boosted the usefulness of accounting information in the Turkish market; their representative research period i.e., 1998-2011 divided into two periods defined as pre and post adoption of IFRSs.

The explanation above suggests that when a company generates financial statements that may be regarded as being of high quality, they are certain to be valuable and relevant to all the market's interested parties. Francis et al. (2004) conducted research on the key traits of high-quality financial statements and came to the conclusion that value relevance was the key trait of reliable financial accounting data. The existence of good accounting standards does contribute to the production of good quality accounting information, but this is not the only factor influencing it. Instead, proper enforcement of those good quality accounting standards is another requirement for producing quality accounting information, which further supports this relationship (Sumiyana, Hendrian, Effendi, Fitrijiati, & Sriwidharmanely, 2021).

Despite the availability of high-quality accounting standards, Barth et al. (2008) stressed that if financial accounting rules are not applied in their true spirit, providing excellent quality accounting information becomes nearly difficult. Hellstrom (2006) came to a similar conclusion, arguing vehemently that it is not sufficient to simply concentrate on developing high quality accounting standards to aid in the production of good quality accounting information, but that proper care must be given in ensuring that those accounting standards are actually being implemented as they were intended to aid in the production of good quality accounting information.

The empirical study is crucial to addressing the issue of the value relevance of financial information in emerging economies like Pakistan and examining the relationship between accounting information and stock prices of firms (Mirza, Malek & Hamid, 2019). Surprisingly, researchers in a developing country like Pakistan haven't paid much attention to this phenomenon; therefore, this study aims to close that gap and examine how different companies listed on the Karachi Stock Exchange (KSE), now known as the Pakistan Stock Exchange (PSX), have fared in terms of complying with IFRSs and IASs and how that has affected share prices (PSX). In the remaining portion of the study, they will be referred to as PSX/KSE.

## REVIEW OF LITERATURE

The value relevance of various accounting information in developing countries that are facing transition needs to be explored (Čupić, Todorović, & Benković, 2022). The supporters of IFRS implementation believe that financial reports prepared in accordance with IFRSs/IASs are of much higher quality than financial statements prepared in accordance with local standards in every country. It is argued that compliance with IFRSs/IASs ensures financial transparency, reduces information asymmetry, ensures comparability of financial statements across the countries, helps in attracting capital inflows and results in a reduction in Cost of Capital of the complying firms (IASB 2002). Considering these benefits, it is no surprise that initially IFRS compliance studies were focused on the quality of financial statements produced in compliance with mandatory requirements of IFRSs/IASs.

A number of accounting studies have been directed to provide evidence of the quality of financial statements prepared in accordance with IFRSs/IASs and their impact on share prices and on

decision making of investors. This section reviews the studies that investigate the value relevance of accounting information produced in accordance with IFRSs/IASs. Alfaraih (2014) investigates the impact of compliance with IFRSs/IASs' mandatory disclosure requirements on share prices and investors decision making process in context of Kuwaiti Market. The sample size of this case study consists of all the firms listed on Kuwait Stock Exchange i.e. 163 and this sample is studied for a sample time period of 1995- 2006. First step of this study is to measure the compliance level with IFRSs/IASs' mandatory disclosure requirements by using an item-based index. Compliance level was estimated for only one year i.e. 2006 based on arguments that since the companies use the compliance level policies on long term, one year was considered enough. In the second stage, the estimated compliance index was regressed with share prices using the Easton & Harris (1991) Returns model. The regression's results proved that the compliance index was significantly related to share prices and that investors value the accounting information while making investment decisions concerning companies listed on Kuwait's stock market.

Ahmed, Neel and Wang (2013) studied the impact of compliance with IFRSs/IASs' on income smoothing practices, Earnings aggressiveness and on practices of Earnings management that are pursued to meet targets. Sample firms were chosen from 20 countries where companies have been required to prepare financial statements in compliance with IFRSs/IASs since 2005. Reporting quality of financial statements prepared in accordance with IFRSs/IASs is matched with quality of financial statements prepared in compliance with GAAPs with effects of country specific enforcement and firm level attributes are controlled. Their results proved no statistically significant difference between compliant and non-compliant firms with respect to Earnings management activities pursued to meet targets. They witness a decrease in accounting quality due to compliance with IFRSs/IASs, especially for those firms that belong to countries strict enforcement regimes.

However, Barth et al. (2012) found evidence contrary to Ahmed et al. (2013) as they conclude that Earnings and Book values became value relevant when financial statements started to be prepared in accordance with IFRSs/IASs. In a similar kind of a study, Barth et al. (2012) studied the value relevance of accounting information produced in compliance with IFRSs/IASs instead of GAAPs. The sample size consisted of 1201 firms from 15 European countries. Results prove that any adjustments made in Earnings and Book value due to switch from GAAPs to IFRSs/IASs are actually value relevant as they are found to have a cross-sectional relationship with share prices. Transparency and fairness of IFRS is contingent upon the implementation of standards, governance structures, national laws and regulations of capital market (Cohen & Dijkman, 2021; Weenink, Leg, McKinley, Kazarian, Vasselopoulos, & Johnson, 2022).

Chen et al. (2013) used the information contained in Form 20-F that details the reconciliation requirements after conversion to IFRS from US GAAPs during the period of 2005-2006. Sample of 195 firms that were registered in other countries and also in US and prepared their financial statements in accordance with IFRSs/IASs. All the reconciliation adjustments and two-day period's abnormal volume that surrounds the Form 20-F filing date are found to be statistically positive. The results show that information provided by Form 20-F reconciliations are at least useful for a subset of firms and losing this information may cause information loss for lower sophistication level investors.

In an attempt to go beyond accounting numbers to emphasis, the value of accounting information produced in compliance with IFRSs/IASs Lang and Stice (2015) include qualitative disclosures in financial statements. Firms from 40 countries were selected for the time period of 1998-2011 and around 87,608 annual reports are studied to reach the desired conclusion. They conclude that annual reports based on IFRS/IAS requirements are more detailed and use specialized language than non-IFRS compliant annual reports. They also conclude that disclosure requirements of IFRSs/IASs are better comparable than non-IFRS compliant reports depicting the high quality of IFRS compliant annual reports and value for the investors to make their investment decisions.

In the context of Pakistan, the relationship between compliance with IFRSs/IASs' disclosure requirements and value relevance was studied by Azeem and Kausar (2011) but the sample size consisted of only 52 companies and with a very sample time frame. It is believed that after 2013 the PSX/KSE grew at very brisk pace and by 2016 the stock market was booming making headlines around the globe and it is considered necessary to study the relationship in greater detail to form a solid opinion about the value relevance of compliance with disclosure requirements, therefore, this study aims at exploring the extent to which compliance with IFRSs/IASs' disclosure requirements affects the share prices of leading companies in one of the brightest times in PSX/KSE history.

In summary, this section reviews some of the important literature available on IFRS compliance and its value relevance. The studies involve the literature from both the emerging and developed economies. The results prove that IFRSs/IASs compliant accounting figures have the tendency to be proved as value relevant but the available literature is dominated by studies from developed countries with little work carried out in developing economies. This study will be the first study in South Asian countries that studies IFRS compliance and its value relevance for such a large time frame where the IFRS compliance index was reported for every sample year and regressed with every year's return.

### Study Hypothesis

The question this study tries to answer is whether value relevance of financial accounting information supplied to PSX/KSE sample firms' investors is positively connected to compliance with accounting standards by PSX/KSE companies. Therefore, the hypothesis generated is concerned with level of compliance and value relevance of accounting information supplied to investors.

Barth et al. (2008) created a large sample of firms from around the world and studied the characteristics and features of accounting information supplied to shareholders and other groups. The firms were divided into two groups: one that complies with international accounting standards and the group of firms that does not. The investigation was centred on whether compliance with IASs brings any differences in the quality of financial statements. Their results showed that firms that comply with IASs could produce more quality financial statements than those that do not comply with IFRSs/IASs which confirms the very purpose of conceptual Framework by IASB i.e., to produce high quality accounting standards. The results also showed that those financial statements that are prepared in accordance with IFRSs/IASs provide accounting information-Earnings- that is more value relevant but this tendency is not found in firms that don't comply with IFRSs/IASs. These results were found on the basis of Easton and Harris (1991) return model.

Bartov et al. (2005) studied the relationship between accounting information and its value relevance in the context of German companies and concluded that financial statements of IAS compliant companies are more value relevant than those of companies that comply with German accounting standards. Barth et al. (2008) stress that mere adoption of IFRSs/IASs' is not enough to guarantee the value relevance of financial accounting information but any lapse in rigorous enforcement of accounting standards would jeopardize the whole process and in effect financial statements even though are prepared in compliance with IFRS will fail to produce value relevant information and would be mere formality. Therefore, it seems unrealistic to presume that mere adoption of IFRSs/IASs will lead to publishing valuable accounting information.

Kothari (2000) concluded that the quality of accounting standards is not sufficient alone to affect the quality of accounting information but rigorous enforcement of those accounting standards and regulations is also very important. Quality of accounting information is dependent at the same time by existence of quality accounting standards and rigorous enforcement of accounting standards. Therefore, it is irrelevant how quality accounting standards exist for companies to follow but more important factor is in what spirit those accounting standards are being implemented.

Tower et al. (1999) and Al- Shammari et al. (2008) found heavy noncompliance in firms that claimed compliance. Previous studies also found that compliance levels also vary with nationality, age, size, leverage, auditor quality, etc. Although much literary evidence is available on value relevance around the globe, there is still hardly any evidence of research work that attempts in the context of Pakistan to differentiate between the effect of accounting standards and their actual implementation on value relevance for a longer period of time. Having said that there are still literary examples that study the quality of accounting information in link with effective enforcement in the case of Pakistan but there is no major empirical evidence available to have linked compliance with accounting standards with the value relevance of accounting information.

Based on previous research work, it can be inferred that compliance with accounting standards has positive impact on value relevance while noncompliance has negative impact on value relevance of accounting information. Therefore, the greater is the compliance level with IFRSs/IASs' the higher is the value relevance of accounting information i.e. Earnings. As a result of above discussion leads this research to generation of hypothesis as

**H1=** There is positive impact of higher level of compliance with IFRSs/IASs' disclosure requirements and high value relevance of Earnings.

### RESEARCH METHODOLOGY

While researching the previous work on disclosures in financial statements, it was asserted that most of the studies on disclosure requirements focused on using item-based index to study the phenomenon of compliance with IFRSs/IASs' disclosure requirements (Chavent et al., 2006). In order to be consistent with this and other researches, e.g., Street and Gray (2001), and Al-Shammari et al. (2008). This study also focuses on using the self-Constructed item-based index to study the compliance level with IFRSs/IASs' mandatory disclosure requirements by PSX/KSE sample companies in Pakistan.

As has been discussed previously only mandatory disclosure requirements are used for construction of this item-based index. For obtaining the detailed requirements of each IAS/IFRS applicable in Pakistan, the latest manuals from accountancy bodies' manuals is used. Based on these detailed disclosure requirements, a comprehensive index is formulated to address each of these relevant requirements to Pakistani companies. The prescribed index is constructed only for those disclosure requirements that IASs/IFRSs prescribe. Every single IAS/IFRS is searched in detail to locate any requirements categorized as voluntary to make sure they are left out of this index to help conduct a comprehensive, relevant and meaningful study. In order to make sure that constructed index is complete and comprehensive following procedures were adopted

1. A check list for disclosures is obtained from the Islamabad offices of Big 4 audit firms that was available for the years 2006-2016. Self-constructed disclosure requirement's index was compared to this disclosure check list for testing index's comprehensiveness and completeness. This comparison helps in confirming that self-constructed index is complete and as comprehensive as necessary as far as disclosure requirements of all applicable standards in Pakistan are concerned. Technically all the mandatory disclosure requirements required by the IFRSs/IASs were used in the self-constructed index. Voluntary disclosure requirements were ignored to avoid larger companies achieving undue advantages and to avoid Bias. A model check list and procedure to count score is attached in appendix C.
2. An academic expert of accountancy education in Islamabad and two industry experts were consulted in detail to review the compliance index for its completeness and comprehensiveness and index received positive nod.

#### **Assigning Weights to Compliance Index**

All the researchers studying the compliance level with IFRS disclosure requirement agree that item-based requirements are to be used for verifiable conclusion but the difference lies in opinion on assigning different weights to different disclosure requirements or same weights to be used for all the requirements Chavent et al (2006). Previously Cooke(1989a) noted that the question of whether to use weighted or unweighted items is best answered by concentrating on focus user group of research. If the research is aimed at satisfying the needs of one user group e.g. investors then weighted index is more relevant as it will highlight the items to be concentrated upon and are more relevant to investors but according to writers if research is aimed at addressing the need of different groups then un weighted index is more relevant as it will give equal focus to need of all the user groups as it is presumed that each disclosure requirement in index is equally relevant to all users of financial statements.

In financial statements each and every mandatory disclosure gives every user of financial statements some sort of important information and this study also focuses on digging deep to find out compliance level with IFRSs/IASs' mandatory disclosures therefore it can be safely assumed that mandatory disclosures are useful and relevant to all users of financial statements. Therefore, considering the above assumption and taking into account Street & Gray (2001) and Al-Shammari et al (2008), equal weight is allocated to every single mandatory disclosure requirement that is included in compliance index. If a mandatory disclosure is not relevant to the firm by any chance then it is excluded from weighting system for that firm while if a mandatory disclosure is made the assigned code is 1 and if a mandatory disclosure is not made the allocated code is 0. Carrying on the research work of studies mentioned above at the top of paragraph all the 1s and 0s are added together to find the total weight as Total Disclosure Score (TDS) of all disclosures.

$$TDS = \sum_{i=1}^n d_i$$

Where,

d=1 if a mandatory item is disclosed

d=0 if a mandatory item is not disclosed &  $m \leq n$

Although this weighting system of disclosure requirements has its own flaws as noted by Cooke(1989a) e.g. bringing subjectivity but it is noted that if this weighting system is not followed then an unfair advantage will be bestowed upon very large and well diversified firms by given them more weights than they should actually get. According to this weighting system a firm is not penalized for not disclosing a non-mandatory item as it is considered as it will be considered as totally irrelevant to the firm. But if an item is found to be mandatory and is not disclosed in financial statements then d will be given weight of 0.

The following two procedures are considered helpful in removing the bias in weighting systems. These procedures are considered consistent with previous researches namely Street & Bryant (2000) and Al-Shammari et al (2008). First procedure is to thoroughly review the annual reports published by the firm to determine whether any financial disclosure requirements are actually relevant to the firm's business or not. Cooke (1989a) claims that this should be done prior to assigning weights to the checklist for the given firm. Two studies Street & Bryant (2000) and Glaum & Street (2003) see this practice as an opportunity to avoid penalizing the firm for not complying with disclosure requirements that actually are not relevant to its business activities.

Second procedure is to make some prior assumption as to which disclosure requirements will be mandatory for the business. There are always some mandatory disclosure requirements that will be considered mandatory for the firm even before the weight's assignment procedure starts. Al-Shammari (2008) quoted an example of mandatory requirement for all the manufacturing concerns to publish information they used as basis of costing the inventory. Since all the manufacturing concerns hold inventory so it can be assumed before the weighting is started the basis of using accounting policy to measure inventory.

After the weights are assigned to all disclosure requirements then for every company an aggregated of all weights is computed (TDS) as discussed before. Then compliance index is computed by adding up all the 1s and 0s and then this sum TD is divided by maximum points (MP) any company could gain by complying with all the mandatory requirements. As mentioned earlier MP doesn't include scores for disclosures that is not relevant to entity therefore it is very natural that TDS will vary from company to company. And therefore, MP will be computed as follows;

$$MP = \sum_{i=1}^n d_i$$

Where

d= expected disclosure item

n= number of required disclosures by the company.

Consequently score of compliance index for any company be computed by dividing the TDS by total score of mandatory disclosures that are applicable to company MP.

$$(CEX) = \frac{TDS}{MP}$$

### Data to test Value Relevance

In this section different data collection methods and different empirical valuation methods will be discussed in order to test the value relevance hypotheses. These empirical valuation methods will be described in detail later but first sampling Criteria and data collection methods will be narrated. After them different methods to test value relevance and to observe changes in value relevance over the selected period of time will be discussed and in the different factors that affect the value relevance of accounting information e.g. Earnings and changes in Earnings will be discussed.

### Time frame Sample and Data collection

The time period selected for this study comprises of eleven years' time span ranges from 2006-2016. The reasons for selecting the time period was that at first Karachi Stock Exchange went through fundamental changes during this time period and was better regularized and governance procedures were improved, The second reason being that during Musharraf's regime Pakistan economy experience huge influx of capital and number of companies grew considerably increasing number of players in the market but after the end of military rule the PSX/KSE dipped and touched the low and then resurgence was witnessed after a tenure of political government so time period was considered as an ideal to study the share price movements. Third reason being strictness of SECP/ICAP over audit firms thereby pressurizing the top audit firms to comply with strict audit rules thereby improving the quality of audit

and last reason being PSX/KSE starting using e technology which affected the business positively and increased information resources for market participants by the end of sample period.

The most relevant data for testing the value relevance of accounting information is considered to be Market prices of shares, net profits, dividend ratios and number of shares issued so far. The main source of data is Security and Exchange commission of Pakistan, page on Yahoo finance, State Bank of Pakistan, Companies' financial statements and annual reports obtainable from companies' websites. All monetary information i.e. stock prices, dividend figures and other accounting information is presented in PKR. For share prices and Earnings, per share value is used to counter the problem of Heteroscedasticity and other scaling problems. All of the data was verified to validate any capital adjustment. This was in agreement with previous studies on the topic e.g. Barth et al (1992) and Kothari & Zimmerman (1995), Alfaraih (2014).

As there are only 147-162 companies in selected sample for 2006-2016 so the sample size is relatively small therefore following criteria were used to select sample

1. Market values of shares must be available for the whole selected year.
2. Other related financial information that is considered important e.g. dividend, net profits and number of shares issued etc. is also available for the year selected.

### **Value Relevance through Empirical Valuation models**

For this study eight hypotheses H8=H9 are meant to test how value relevant the accounting information i.e. Earnings and changes in Earnings are over the selected time periods of 2006-2016. The main thrust of research on value relevance is to study that how different accounting variable affect the share price movements (Beaver, 2002). Al hogail (2004) explains the theory of value relevance as a study to explore as how much of a company's share's value is the result of accounting information i.e. to what extent the accounting information affects the share price and ultimately value of the firms itself. Therefore, it could be asserted that the main aim of empirical research on value relevance of accounting information is to show whether accounting information does have incremental effect on market values of shares to be useful for stakeholders to make rational investment decision.

Value relevance of accounting information can be studied by applying regression on share price and Earnings and changes in Earnings on all the sample years to explain the movement in share prices. As we have discussed and hypothesized before any statistical significance ( $R^2$ ) of the relationship between accounting information and share price for one year is not decisive until we convert this cross-sectional analysis into time series to analysis the changes in value relevance over time. To find out the accounting information and value relevance have statistical significance is a sign that all the variables are associated i.e. financial statements are value relevant to investors.

As discussed previously there are two models available in literature which are universally acknowledged as valid and reliable i.e. Price Model and Return model. Ohlson (1995) used the price models to study the link between share price movement and Earnings and book values i.e. accounting information. Easton and Harris (1991) used the return model to study the relationship between return on shares with Earnings as accounting information. As is evident these models are based on essence of accounting i.e. book values and Earnings. Since the book values study the fundamental value and are incorporated in Earnings therefore only Easton & Harris (1991) Return model is used for current study. Barth et al (2001). And Holthausen & Watts (2001) narrated that both of the models have their pros and cons and it is tedious debate as to which one is better. A lot of researches have been carried out to test this assertion e.g. Kothari and Zimmerman (1995) claimed that if we use price model then there will be less noise and bias in Earnings coefficients but on the other hand if Return model is used then relatively fewer econometric problems will be faced. Therefore, to encounter problems caused by econometric technicalities it is considered a viable option to use Returns model to complete the analysis.

### **Returns Model**

Ohlson(1995) price model studies how the changes in Earnings and book values affect the changes in stock prices and sets the tone for studying the dynamics of share prices. However one of the short comings in this model was identified by Xu (2003) who narrated this model is unable to explain the changes in returns in stock market due to changes observed in independent variables i.e. Earnings and book values. Therefore, this study uses the Return model to further investigate the value relevance of accounting information.

Earlier empirical researches that were conducted to study the relationship between Earnings and share returns were mostly based on assumption that share price is simply a multiple of Earnings.

Beaver et al (1980) & Easton & Harris (1991) are all of the opinion that this model is simply an encouragement for other researchers to carry out empirical researches to study the relationship between Earnings and Returns or between abnormal returns and abnormal Earnings. Easton and Harris (1991) also add that Earning level in addition to changes in Earnings can also be studied for their impact on share returns. They also note that transitory components are present in previous year's Earnings and those Earning levels might well be related to them.

Ali and Zarowin (1992) further studied this role of transitory components and Earnings and they claimed that these transitory components could disturb the coefficients of Earnings and could negatively link estimation error with persistence cross-sectionally if changes in Earnings are used as a proxy for abnormal Earnings. Thus, according to (Ali & Zarowin, 1992) claims based on previous argument that beside those components that feature in the Earning changes, the inclusion of Earning levels in the return model is of utmost importance to capture the effect of those transitory components. In addition, inclusion of Earning levels in prescribed Return model is also important in reducing or eliminating measurement error in abnormal Earnings Ohlson Shroff (1992).

Therefore, as a result of above discussion both Earning levels and changes in Earning, scaled according to opening share prices are included in return model for this study as used by Easton & Harris (1991) who declared the value relevance as a function of both the Earning change, Earning levels and other factors.

### **Factors that affect the value relevance of accounting information**

As previously discussed, a number of factors have been found to affect the value relevance of accounting information, including those mentioned by (Collins et al, 1997 & 1999), Barth et al (1998), and (Hellstrom, 2006). On the other hand, (Barth et al, 1998) and (Hellstrom, 2006) identified industry category as the main factor, and in subsequent research (Babalyan, 2001) identified firm size as the main factor affecting the value relevance of accounting information. These noted elements have repercussions, which are covered below.

#### **Profitability Effect**

To study the impact profitability has on value relevance of accounting information the sample is divided into two sub-samples i.e. profit firms and nonprofit firms plus a profitability variable acting as a control variable is also included in profit and Return models to capture profitability impact on value relevance of accounting information.

#### **Industry Effect**

Sample for this research has been divided industry wise to help studying the industry impact on Earnings. Since the sample has been divided from all the sectors apart from Financial services sector on PSX/KSE and as was done with profitability effect a dummy variable has been added to Return models to capture the impact of industry on value relevance.

#### **Firm Size**

Firm size is measured by the median of log of firm's total assets as suggested by (Barth et al 1998) and (Bae & Jeong, 2007). Using this measure the sample firms have been divided into small and large firms. Firms that reported total assets higher than median value are treated as large firms while firms that reported total assets below median are classified as small firms. To capture size impact on value relevance the natural log of total assets of the firm is used as continuous measure in the extended Return models.

After the above discussion now developed are the extended models of price and return.

$$R_{it} = \beta_0 + \beta_1 |EPS_{it}| / P_{it-1} + \beta_2 \Delta |EPS_{it}| / P_{it-1} + \beta_3 SIZE_{it} + \beta_4 LOSS_{it} + \beta_5 IND_i + \varepsilon_{it} \quad (6)$$

*Since the number of loss making firms are much lower than profit making firms so loss variable has replaced the profit variable to avoid multicollinearity issues.*

### **Data collection and methodology to test value relevance and Compliance level with IFRSs/IASs' mandatory disclosure requirements**

Hypothesis (H1) relates with association of value relevance of accounting information with compliance with IFRS. If it is assumed for some time that while making investment decision investors consider the fact that whether entity has complied with IFRSs/IASs in reporting the effect of transactions then it can be asserted that compliance with IFRSs/IASs' disclosure requirement is another useful information that investors and other stakeholders consider in their decisions.

Another dummy variable (DCCEX) is added in extended models of Returns to measure the effect of compliance level with IFRS/IASs' mandatory disclosure requirements on value relevance of accounting information i.e. Earnings and changes in Earnings. The dummy variable reads 1 if the firm



achieves compliance level higher than median and zero if lower than median. As we have discussed earlier that firm's compliance with IFRSs/IASs' mandatory disclosure requirements will be studied from 2006-2016 therefore the effect of compliance level with IFRS on value relevance of accounting information is also studied for the same time period.

To deeply and thoroughly examine the impact of compliance level on value relevance of accounting information the compliance level is subdivided into high/Medium/low categories instead of just high/low categories. The percentile rank approach is used as valid methodology for this categorical division. A new dummy variable (TCCEX) is included in the price and returns models to capture the effect of compliance level on value relevance of accounting information. The dummy variable reads (2) if compliance level is above 75%, reads (1) if between 25% & 75% and (0) if otherwise.

Earlier in this study we developed the first regression model specifying the compliance level as a function of age, liquidity, leverage, profitability, size, industry, quality of auditor etc. In order to include effect of compliance level on value relevance, there are additions in Extended return model where again dummy variable of compliance level alongside Earning levels, changes in Earnings, profitability, industry and firm size etc. to explain the value relevance of accounting information.

As has been mentioned previously that if investors do give some importance to compliance level while making their investment decision then this compliance level naturally becomes an information that investors take into account while making their investment decisions. A statistically significantly positive DCCEX or TCCEX indicates that investors consider the compliance level decision as very important factor in their financial decisions supporting last hypotheses of this study H10. But having said that all there is another problem to be solved before this discussion is concluded and that is one independent variable affecting another variable as it is evident from previous paragraph and past developed equations that size and industry are common independent variables in compliance model and Returns model.

The problem that arises because of this relationship of independent variables is that DCCEX and TCCEX that are used as dummies in extended Return models may only catch the correlation of size, industry with compliance level therefore statistically significant coefficients of DCCEX and TCCEX used in extended models of price and return may lose their real value as they will lose their explanatory power in relevant models. However, like every problem this issue can be solved by using two-stage least square regression method in which DCCEX and TCCEX will be regressed with common independent variables i.e. size and industry to estimate the impact the size and industry has on DCCEX and TCCEX.

$$TCCEX \text{ or } DCCEX = \beta_0 + \beta_1 SIZE + \beta_2 IND_i + \dots + \text{residual} \quad (7)$$

Where  $\beta_2 IND_i + \dots$  = Coefficients of all the selected industrial sectors of PSX/KSE

Therefore, TCCEX and DCCEX will replace CEX in extended Returns model developed in equation 6 above and equation will become

$$R_{it} = \beta_0 + \beta_1 \left| \frac{EPS_{it}}{P_{it-1}} \right| + \beta_2 \Delta \left| \frac{EPS_{it}}{P_{it-1}} \right| + \beta_3 D/TCCEX_{it} + \beta_4 SIZE_{it} + \beta_5 LOSS_{it} + \beta_6 IND_i + \varepsilon_{it} \quad (8)$$

As was discussed above Residual of TCCEX and DCCEX will be used to measure the effect of Compliance on Value relevance so now equation will show Residual as the Independent variable to be regressed on Returns instead of TCCEX or DCCEX.

$$R_{it} = \beta_0 + \beta_1 \left| \frac{EPS_{it}}{P_{it-1}} \right| + \beta_2 \Delta \left| \frac{EPS_{it}}{P_{it-1}} \right| + \beta_3 \text{Residual}_{it} + \beta_4 SIZE_{it} + \beta_5 LOSS_{it} + \beta_6 IND_i + \varepsilon_{it} \quad (9)$$

The residual figure from above can be interpreted as the actual sole effect of DCCEX and TCCEX have on value relevance and therefore can be used as a proxy for DCCEX and TCCEX. This residual variable called RCCEX will replace DCCEX & TCCEX in extended Return models in this study. A statistically significant positive coefficient of RCCEX will mean that investors give greater value to compliance level while making their investment decisions and support the hypotheses of this study.

## RESULTS

Table 1 shows the results of our prescribed equations 8 & 9 developed in previous sections.

Equation No. 8					Equation No.9			
D.V	Rit		Rit		Rit		Rit	
variable	Coeff.	t Val	Coeff.	t Val	Coeff.	t Val	Coeff.	t Val
C	-.920***	-2.420	-	-2.232	-	-2.620	-.663***	-2.555
EPS	1.232***	2.823	.923***	2.257	.625***	2.541	1.782**	2.112
Δ   EPS	.292**	1.426	.296**	1.522	.396**	1.263	.392**	1.993
D/TCCE	.134**	2.922	.092***	1.964				
X								
Residual					.166***	2.093	.102***	1.828
Loss	.0233	.168	.042	.177	.025	.182	.039	.133
Lsize	.062	.266	.073	1.233	.035	1.411	.032	1.488
Elect	.142	1.552	.562	1.721	.241	1.951	.172	1.281
Pharm	-.062	-.826	-.0332	-.624	-.012	1.112	-.061	-.192
Eng	.271	.261	.193	.222	.266	.281	.202	.273
O&G	.069	.775	.019	.766	.093	1.926	.088	1.273
Adj,R <sup>2</sup>		.298***		.283***		.293***		.292***
F.Stat		8.921		8.321		8.301		8.227
N		131		131		131		131

\*\*\* is significant at .01 level, \*\* is significant at .05 level. Heteroscedasticity was dealt with through White(1980) Heteroscedasticity consistent standard errors.

Table 1 predicts strong relationship between IFRS/IASs' mandatory disclosures' compliance level and Returns as the coefficients of DCCEX, TCCEX and Residual (RCCEX) were significant in all models used ( $p < .01$ ). This in turn confirms our hypothesis (H 1) that greater compliance level with IFRS/IASs' mandatory disclosure levels are statistically linked to value relevance of accounting information i.e Earnings and changes in Earnings.

## CONCLUSION

This study was aimed at identifying the impact of accounting information produced as a result of compliance with the mandatory disclosure requirements of International Financial reporting standards on value relevance of the selected companies. An item based index was formed to estimate the score of compliance by every sample companies for all the sample years. Value relevance was estimated as Returns which was combination of share prices + net dividends.

Three control variables namely, Profit. Size and type of Industry are used to capture their influence on value relevance of Earnings. Only profitability is found to be a significant factor while the other two remain insignificant throughout the period. Hypothesis 1 (H1) was confirmed in this analysis as Earnings is found to be statistically linked to IFRS/IASs's disclosure level compliance confirming the theoretical expectations of this study.

The findings of this research will be helpful for other developing and emerging economies, especially those with similar economic characteristics to Pakistan and who are confronting similar economic challenges as Pakistan, even though the data for this research comes exclusively from Pakistani companies. It is anticipated that this research will increase the value of accounting information to investors in such economies.

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