IFRS CONVERGENCE AND VALUE RELEVANCE OF ACCOUNTING INFORMATION: EVIDENCE FROM INDIAN FINANCIAL REPORTING

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ABSTRACT

International studies have recorded evidences of improved accounting information attributed to the adoption of International Financial Reporting Standards (IFRS). The concurrent literature is however, scant in India. This study is one of the first of its kind to explore value relevance in the context of financial reporting for a large sample in India since IFRS convergence. The paper examines the value relevance of financial reporting of firms listed on the National Stock Exchange (NSE) in India by employing the Ohlson, (1995) Price Model. It aims to identify whether fundamental accounting variables like book value per share (BVPS) and earnings per share (EPS) are more value relevant after the IFRS converged Indian Accounting Standards (IndAS) became mandatory for listed firms. The hypotheses are tested using multivariate panel regressions on the annual data of 910 listed firms from 2013-14 to 2018-19 – resulting in 5460 observations – to include the pre and post mandatory convergence periods. The study documents a statistically significant association between stock prices of our sample firms and their key accounting variables (BVPS and EPS) along with an increase in the explanatory power of the model during the post mandatory convergence period.

1.   INTRODUCTION

The economic integration of markets has accelerated the need for comprehensive, compact and comparable accounting information amidst the wide diversity and heterogeneity of accounting systems around the world. The issue of creating a common accounting language and harmonizing accounting standards is both inevitable and practical. The introduction of the International Financial Reporting Standards (IFRS) in 2002 plays a great role in this transformation process. Over 140 countries around the world either permitted the use of or mandatorily implemented the standards since their inception. The widespread adoption of IFRS resulted in fundamental changes in the business environments of nations which had been following their respective local standards or Generally Accepted Accounting Principles (GAAP). This sparked a curiosity among researchers (Armstrong, Barth, Jagolinzer, & Riedl, 2010; Ball, 2006, 2016; Daske, Hail, Leuz, & Verdi, 2008)

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who made attempts to understand whether this new accounting trend brought benefits or adverse consequences to the adopters. Early researchers of IFRS benefits have found evidences of improved accounting quality since the implementation of the global standards. The research literature identifies reduced earnings management, more timely recognition of losses and increased value relevance of earnings as quality metrics for accounting information (Ball, 2006; Barth, Landsman, & Lang, 2008).

Value relevance of accounting variables finds itself at the center of the debate on impacts of IFRS on financial reporting. Since the mandatory adoption of the IFRS by the European Union (EU), a great deal of research has focused on whether value relevance of financial reports is higher under IFRS or the local standards of the respective jurisdictions. However there is no unequivocal view on whether the use of IFRS increases or deteriorates the value relevance of financial information. Elbakry, Nwachukwu, Abdou, and Elshandidy (2017); Iatridis (2010) observed an increase in value relevance in countries like Germany and the United Kingdom. Financial information under IFRS showed incremental value relevance as compared to Canadian and US GAAP reports (Okafor, Anderson, & Warsame, 2016) . While Tsoligkasa and Tsalavoutas (2011) found no significant changes in value relevance after switching from Greek GAAP to IFRS. In the context of developing countries, Ki, Leem, and Yuk (2019) reported a decline in value relevance in South Korea after IFRS adoption while Wu, Hsieh, Yu, and Chu, (2017) discovered no improvement in value relevance of financial statements post IFRS convergence. This study is motivated as an attempt to add to the existing literature by examining the effects of IFRS convergence on the value relevance of Indian listed firms for the period (2013–2014 to 2018-19) comprising of the pre and post-IFRS convergence periods.

Businesses in India have been following the Indian GAAP to report their financial statements before it was converged with IFRS to create the new Indian Accounting Standards (IndAS). The use of the standards became obligatory for all listed companies from the financial year 2017-18. In the context of these changes in the Indian accounting framework, the current study seeks to answer the following research questions:

1) Are earnings and equity book values reported by Indian listed firms, related to their stock prices?
2) Does the value relevance of the earnings and equity book value of Indian listed firms increase after the transition to IFRS converged standards?

To answer these questions, the study is conducted in the Indian corporate setting. India has followed the convergence mode of IFRS implementation which is in its nascent stages, thereby validating the need for such research which can provide direction to this massive exercise of convergence. Although value relevance studies exist in the Indian context (Bhatia & Mulenga, 2019; Robu, Carp, Istrate, Popescu, & Robu, 2016; Sharma, Kumar, & Singh, 2012; Vardia, Kalra, & Soral, 2016), there is little evidence reported after the IFRS convergence process. The present study therefore seeks to fill that gap in the literature by testing a large sample of 910 firms over a period of six years (2013-14 to 2018-19). The Ohlson (1995) price model is employed to analyze the data which provides evidence on the link between stock prices and key accounting variables – book value per share (BVPS) and earnings per share (EPS). The empirical analysis generates three levels of findings. First, the results show that the BVPS and EPS of the sample firms are value relevant. Second, the value relevance of this accounting information increases during the post

mandatory convergence period. Third, the IFRS converged IndAS do have a positive impact on value relevance, although they marginally reduce the explanatory power of BVPS.

The remaining sections of the study are as follows. In section 2, it presents the conceptual background of the study. In section 3 is a review of the existing literature and development of the research hypotheses. Section 4 describes the samples and the research design of the study. Section 5 discusses the empirical results of the analysis and Section 6 offers the conclusions and implications of the study.

2.   CONCEPTUAL FRAMEWORK

2.1.   *Value relevance of accounting information*

Financial reports enable investors to make investment decisions and informed decisions are possible only when the statements provide 'relevant' information. There should ideally exist, a relationship between the firm's value and the numbers in the financial statements and this relationship is what makes accounting information 'Value Relevant'.

The foundation for value relevance research was laid down by researchers like Ball and Brown, (1968). They observed abnormal returns in the months before and after earnings announcements and concluded that the income captures one half or more of all the information about a company that becomes available during a year. Value relevance studies are known to be joint tests of relevance and reliability, which are two of the key qualitative characteristics of accounting information (Barth, Beaver, & Landsman, 2001). Holthausen and Watts (2001) classify value-relevance studies into three - relative association tests, incremental association tests, and marginal information content studies. Relative association tests compare the relation between stock prices (or returns) and accounting information prepared according to different sets of accounting standards. Incremental association tests investigate whether accounting numbers explain stock prices (or returns) with respect to other specified variables. Finally, marginal information content studies investigate whether a particular accounting number adds to the information set available to investors. Value relevance research is therefore crucial in understanding the association of accounting numbers with capital markets (Barth et al., 2001).

The expansive studies on value relevance either directly apply or modify the Ohlson (1995) model. The model is built upon the solid foundation of Modigliani and Miller (Lo & Lys, 2000). It explores the relation between the firm's market value of equity and two important financial reporting variables, namely the book value of equity per share (representing the balance sheet) and earnings per share (representing the income statement). A significant correlation between them, indicates the existence of value relevance of the financial statements and a high degree of reliability and usefulness of the financial information reported by firms. Since the IFRS were conceptualized with the aim of improving accounting quality, their impact on value relevance has been widely debated in the field of accounting. India, being in its initial stages of IFRS convergence, offers an interesting population for assessing the impact of the global standards on value relevance.

2.2.   *Institutional framework for financial reporting in India*

In India, the financial statements are prepared based on the Indian GAAP which denote the rules, procedures, standards and conventions issued by the premier accounting body - the Institute of Chartered Accountants of India (ICAI). In 2006, it initiated the process of moving towards IFRS, in view of enhancing the global reach of the Indian financial reports. Every country has the choice to implement its own strategy for applying the IFRS. One strategy suggested by Hail, Leuz, and Wysocki (2010) is to adopt a 'country-specific version of IFRS'. According to Wu et. al. (2017), under this strategy, although IFRS provides the foundation for domestic GAAP, each standard-setter still retains the power to issue country-specific accounting standards, interpretations and disclosure requirements. India has followed a similar pattern of convergence with IFRS and created its own set of converged standards known as the Indian Accounting Standards (IndAS). IndAS are different from the existing Indian GAAP (Accounting Standards - AS) framework in three key aspects, i.e., bases of measurement, substance over legal form and emphasis on the balance sheet. The converged standards have been introduced in a phased manner. Corporates were allowed to apply the standards on a voluntary basis for the financial year 2015-16. Subsequently in the financial year 2016-17 – the next phase of implementation – IndAS were made mandatory for companies (both listed and unlisted) with a networth of Rs. 5 billion and above. From the financial year 2017-18, IndAS became mandatory for all listed companies in India. They are still undergoing revisions on a regular basis and in the course of such revisions and in the process of complete convergence, it is important to understand the contribution of IFRS in improving the quality of accounting information of Indian listed firms.

The existing literature on IFRS in India is based on preliminary aspects such as perception of stakeholders towards IFRS adoption (George & Sankaranarayanan, 2017), opportunities and challenges of IFRS implementation (Jain, 2014) and impact on disclosure practices and global capital mobilization (Dhar, 2019; Suleman, 2019). Value relevance studies since IFRS convergence are however scarce. This study therefore aims at extending the international literature on value relevance in the Indian context and to identify if there are changes in the value relevance following continuous developments in accounting standards and the convergence of local standards with IFRS. IndAS has been adopted by a large number of Indian companies which has affected their financial statements. Therefore an attempt is made to understand whether accounting information presented by listed firms in India is value relevant even after the implementation of IFRS. We also compare the extent of value relevance between the pre and post convergence periods.

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Relevance of accounting information is considered one of the fundamental qualitative characteristics of financial reporting. Value relevance tests provide empirical findings on the existence of a relationship between stock prices and accounting variables. An extensive literature exists on the value relevance studies in both developed as well as emerging economies. Charitou, Clubb, and Andreou (2000) study the value relevance of earnings and cash flows in Japan and find a positive relationship. A study of listed banks in Nigeria (Uwuigbe, Uwuigbe, Jafaru, Igbinoba, & Adebayo, 2016) found that earnings per share have a stronger ability to explain the variation in share prices in comparison to book value per share.

Among developing economies, Indian firms represent a perfect sample for value relevance studies due to their large number and diversity in terms of size, capitalization and industry coverage. The country's mode of implementing the IFRS is also unique since it chose to converge its existing local standards instead of a full-fledged adoption of the global standards. A majority of the value relevance studies in India are pertaining to the period before the mandatory convergence of IFRS. Srinivasan and Narasimhan (2012) examined the relationship between market values and consolidated earnings and parent-only earnings. Annual Consolidated Financial Statements (CFS) were not value relevant, whereas annual parent-only financial statements were value relevant. Vishnani and Shah (2008) reveal that value relevance of published financial statements, per se, is negligible. However, ratios based on these financial statements show significant association with stock market indicators. Bhatia and Mulenga (2019) found value relevance in accounting information of Indian banks from 2002 to 2016. Value relevance was also studied in India under the influence of country risks (Robu et al., 2016). Sharma et al. (2012) found negligible value relevance in Indian financial markets. However these studies did not analyse the impact of IFRS on value relevance in India.

Vardia et al. (2016) found no significant association between value relevance and IFRS adoption in India. The study was conducted before the mandatory use of IFRS converged standards. Kaur and Yadav (2020) studied value relevance since the mandatory convergence but only for a select sample of top listed companies in India. Therefore this study attempts to add to the value relevance literature in the country, using a large and diverse sample, especially in the phase of IFRS convergence through the first hypothesis:

H1: The reported earnings (EPS) and equity book values (BVPS) of Indian listed companies are value relevant.

Prior research investigating the impact of IFRS implementation on value relevance, focused more on developed countries, especially, European countries. In an extensive research conducted across 21 countries between 1994 and 2003, Barth et. al. (2008) identified that the International Accounting Standards (IAS) - the older version of IFRS - improve accounting quality in terms of less earnings management, improved timely loss recognition and increased value relevance of accounting amounts. Research on value relevance has also been combined with earnings management to investigate the effect of IFRS implementation on the quality of financial statements information (Iatridis, 2010). IFRS was found to have positive effects on the financial performance of firms further leading to more value relevant accounting measures. IFRS based accounting information in Germany and UK showed an increase in the value relevance of earnings in both countries, despite a decline in the value relevance of book value (Elbakry et. al., 2017). The voluntary adoption of IFRS in Germany, France and Belgium did not improve the value relevance of their accounting information. However value relevance of book value and earnings was higher after the mandatory transition to IFRS (Kouki, 2018b). In Canada, Okafor et al. (2016) tested the value relevance hypothesis based on price and return regressions as well as incremental association. The results proved that financial information showed incremental value relevance as compared to Canadian and US GAAP reports.

Evidences on the impact of IFRS on value relevance of accounting information were also reported in the Middle East. Kargin (2013) found that the market value of Turkish firms was value relevant with respect to book value and earnings. Another research (Temiz & Gulec, 2017) in Turkey also

highlights a gradual increase in the value relevance with the transition from local standards to IFRS. A comparative study in Jordan by Daas (2014) measured the impact on accounting quality during three phases i.e. during IAS, IFRS (voluntary phase) and IFRS (mandatory phase). It was found that earnings and book value of equity became less value relevant during IFRS (mandatory phase) as compared to the IAS and IFRS (voluntary phase). In the African context too, accounting information has shown higher value relevance after revision and convergence with IAS/IFRS (Outa, Ozili, & Eisenberg, 2017). The analysis on 52 companies on the Nairobi Stock Exchange revealed that value relevance is higher in the post-revision/convergence period. However it observed that the value relevance in East Africa is lower than that in developed countries as revealed by previous studies. Studies in the Asian context also show mixed results. Nijam and Jahfer (2018) investigated the impact of IFRS adoption on value relevance of accounting information in Sri Lanka between 2010 and 2014. They maintained that both book value of equity and earnings per share explain the market value per share. They further observed that the explanatory power of the value relevance model post IFRS adoption is greater than in pre-IFRS phase. However, Wu et al. (2017) have different findings with respect to Taiwan. They claim that convergence with IFRS cannot significantly improve the value relevance of financial statements. In South Korea too, Ki et. al. (2019) found that the value relevance of total listed firms had declined after IFRS adoption.

The present study provides early empirical evidence on the subject of IFRS implementation in India and its impact on value relevance. According to 2018 data, the population of domestic listed companies in the world that are required or permitted to use IFRS Standards represents 64% of the total domestic listed companies on World Federation of Exchanges. However, it is interesting to note that three jurisdictions – India, U.S. and China – account for nearly 87% of all domestic listed companies that are neither required nor permitted to use IFRS[1]. India and China have recently followed the convergence mode while U.S permits IFRS only for foreign companies and insists on local standards for domestic companies. The implementation of this worldwide phenomenon is therefore a major cause for research in these three countries. As of 2018, India had the highest number of listed domestic companies in the world followed by the U.S.A and China. It is also ranked among the top ten economies in terms of market capitalization of listed companies in the world. Furthermore, India has followed the convergence mode instead of adoption of IFRS in its original form. The effects of the transition to IFRS and changes in the accounting procedures of the listed companies in India in the light of value relevance therefore lead to the development of the second hypothesis:

H2: The value relevance of the EPS and BVPS of Indian listed firms has increased since the transition to IFRS converged IndAS.

IFRS is known to provide better financial reporting and high-quality accounting information according to the existing literature available across the world. This argument is tested in the Indian context to help understand whether IFRS convergence has improved value relevance in India as compared to the local GAAP.

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[1] According to 2018 data, the number of domestic listed companies that were required or permitted to use IFRS Standards was 31,290 this represented 64% of the total 48,913 domestic listed companies on WFE exchanges. Further the three major economies (India, the United States and China) which have the highest number of listed companies in the world, account for nearly 87% of all domestic listed companies that are neither required nor permitted to use IFRS Standards. ("Who Uses IFRS Standards?" IFRS. Retrieved 12th January 2021 from https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#analysis.

4.   RESEARCH DESIGN

4.1.   *Population and Sampling*

The population consists of all companies which have remained listed on the National Stock Exchange (NSE) of India between the financial years 2013-14 and 2018-19. All listed companies are mandatorily required to comply with the IFRS-converged IndAS beginning from 1st April 2017 with the first set of statements being prepared as on 31st March 2018. Therefore we define the mandatory post-convergence period as beginning from 2017-18. All those firms which have complied with IndAS from the period of mandatory convergence and have stated the compliance of the same in their annual reports are selected for the study. Additionally, NSE is selected as the primary stock exchange as it has a market capitalization almost equal to that of Bombay Stock Exchange (BSE), despite the lesser number of securities listed on it. It is also known to be the largest stock exchange in India in terms of turnover, number of trades and most actively traded securities[2].

The usable sample was selected after excluding:
- banking, insurance companies and non-banking financial companies (NBFCs) since they are not liable for mandatory adoption of IndAS,
- companies which have been delisted from the stock exchanges during the period of study,
- companies which have failed to disclose financial statements during any of the financial years within the period of study,
- companies which have failed to disclose their financial statements in compliance with IndAS during the post-convergence period, and
- voluntary adopters during 2013-14 to 2014-15.

The data were collected from the ProwessIQ database and the sample selection process is summarized as follows:

Initial sample of firms listed on NSE from 2013-14 to 2018-19	1182
Less: Banking, insurance firms and non-banking financial companies (NBFCs)	101
Less: Firms which have failed to disclose their financial statements in compliance with IndAS during the mandatory post-convergence period.	20
Less: Firms with missing data	151
Final sample	910

We followed the 'same firm-year' design during the entire period of study (Ibiamke & Ajekwe, 2017; Outa et al., 2017; Temiz & Gulec, 2017) and the complete sample of 5460 observations was used to test the value relevance as well as the impact of IFRS on value relevance. For the comparative analysis, the data were equally partitioned between the pre-mandatory convergence period (2013-14 to 2014-15) and post-mandatory convergence period (2017-18 to 2018-19). This helps to reduce any effects of different firms within the regressions and to allow each firm to act

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[2] The National Stock Exchange (NSE) has lesser listed firms (over 1800) than the Bombay Stock Exchange (BSE) with more than 5000 companies. Despite the large difference in numbers, NSE's market capitalization of U.S $ 2.27 trillion as of April 2018, was very close to BSE's (U.S. $ 2.29 trillion) as of the same period. The major reason being that the trading volumes of individual stocks are much higher on NSE than BSE. (National Stock Exchange of India Ltd. Retrieved January 12, 2021, from https://www1.nseindia.com/products/ content/equities/equities/historical_equity_businessgrowth.htm.

as its own control for cross-sectional and time series differences (Hung & Subramanyam, 2007). However the period from 2015-16 to 2016-17 has been excluded from the comparison since the adoption of the IFRS-converged IndAS was not mandatory for all the listed firms in India during this period. There was a phased convergence allowing voluntary adoption in 2015-16 and mandatory adoption in 2016-17 for only those firms with a net worth of Rs. 5 billion and above. Therefore to provide a distinct comparison between the same firms, the two years have been excluded from the pre and post convergence analysis but they form part of the overall sample.

The final sample of 910 firms and the corresponding data was used as follows:
a) 5460 observations of 910 firms to measure the value relevance over the entire period of study.
b) 3640 observations of 910 firms to measure value relevance while excluding the period of phased convergence.
c) 1820 observations of 910 firms which followed the Indian GAAP during 2013-14 to 2014-15 and the same firms which followed the IFRS converged IndAS during 2017-18 to 2018-19. The same is used to compare the value relevance between the pre and post convergence periods.

4.2.   Models & Variables

A value relevance study attempts to identify the relationship between the firm's market value and its accounting information. The model developed by Ohlson (1995) explains the firm's market value of equity as a function of two accounting variables – book value of equity and earnings. Book value and earnings perform a central reference role in the companies' valuation process (Tanaka, 2015). Similar recent empirical studies have assessed the impact of IFRS on value relevance globally (Alnodel, 2018; Atoyebi, Salaudeen, & Onyilokwu, 2018; Elbakry et. al., 2017; Ki et al., 2019; Kouki, 2018a; Nijam & Jahfer, 2016; Odoemelam, Okafor, & Ofoegbu, 2019; Outa et al., 2017; Temiz & Gulec, 2017; Wu et al., 2017) by employing the Ohlson (1995) model.
Ohlson's price regression model for value relevance is stated as follows:

$$P_{it} = \alpha + \beta_1\ BVPS_{it} + \beta_2\ EPS_{it} + \varepsilon_{it} \tag{1}$$

where P is the stock price of firm i at time t, BVPS is the book value of equity of firm i at year t, EPS is the reported earnings per share of firm i at the time t and ε_{it} is error term. The present study also employs Ohlson's Price regression model in order to determine the value relevance of financial information as reported by its sample firms.

We represent the stock price as the market value per share (MVPS) collected two months from the end of the financial year[3]. However, since normality of the dependent variable (MVPS) has been achieved through a Natural Logarithm (Ln) transformation, the model used in the study is expressed as follows:

Model 1

$$LnMVPS_{it} = \alpha + \beta_1\ BVPS_{it} + \beta_2\ EPS_{it} + \varepsilon_{it} \tag{2}$$

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[3] The existing regulations require Indian-listed firms to publish their annual financial reports within two months after the end of each financial year. All variables were measured in the Indian currency (Rupees).

where LnMVPS is the natural logarithm of the market value of equity per share of firm i at time t, BVPS is the book value of equity of firm i at year t, EPS is the reported earnings per share of firm i at the time t and εit is error term. This model was employed to test the value relevance of accounting information for the entire period of six years which includes the pre and post mandatory convergence period and the phased convergence period. Further, the model was used to compare the value relevance of accounting information between the pre and post mandatory convergence periods.

We analyze the impact of the IFRS-converged IndAS on value relevance of book value and earnings of our sample and explore the improvements in the value relevance since the transition. For this purpose, we introduce into the model, IndAS as a dummy variable. If the dummy variable is significant, we infer that IFRS convergence has had a significant impact on the value relevance of book value and earnings. The modified model is as follows:

Model 2

$$LnMVPS_{it} = \alpha + \beta_1 \, BVPS_{it} + \beta_2 \, EPS_{it} + \beta3 \, IndAS_{it} + \varepsilon_{it} \tag{3}$$

where LnMVPS is the natural logarithm of the market value of equity per share of firm i at time t, BVPS is the book value of equity of firm i at year t, EPS is the reported earnings per share of firm i at the time t, IndAS is the dummy variable which takes the value '0' if the observations belong to the pre mandatory convergence period and '1' if they belong to the post mandatory convergence period and εit is error term.

As part of the investigation of IFRS convergence impact, we introduce the interaction terms into the model to reveal the impact of IFRS converged IndAS separately on BVPS and EPS. The interaction terms aim to measure the incremental effects of the tested variables (Kouki, 2018a; Nijam & Jahfer, 2016). The model is expressed as follows:

Model 3

$$LnMVPS_{it} = \alpha + \beta_1 \, BVPS_{it} + \beta_2 \, EPS_{it} + \beta_3 \, IndAS_{it} + \beta_4 \, BVPS_{it} \, x \, IndAS_{it} \\ + \beta5 \, EPS_{it} \, x \, IndAS_{it} + \varepsilon_{it} \tag{4}$$

If the coefficients β4 and β5 are positive (negative), it indicates an increase (decrease) in the BVPS and EPS, respectively. We employ these models on our panel data using multivariate regressions and other econometric tools.

5.   RESULTS AND DISCUSSIONS

The data was analyzed using the EViews 11 software due its ease and wide use in panel data regressions. A balanced panel data set was used and the appropriate panel data models and estimators were chosen for the analysis.

5.1.   *Univariate Analysis*

In this section, we identify the central tendency and the dispersion of each variable. We further perform the mean comparison test (t-test) and the variance comparison test (F-test) to identify any

significant changes in the sample after the implementation of the IFRS converged IndAS. The descriptive statistics in Table 1 indicate that the outcome variable (MVPS) has a high standard deviation (1628.81) with stock prices of firms ranging from Rs. 0.25 per share to Rs. 30780.65 per share. The minimum values of BVPS and EPS are negative which suggests the presence of loss making firms in the sample. Table 2 summarizes the results of the mean and variance comparison test. The results indicate a significant increase in the mean and standard deviation of the MVPS as well as the explanatory variables – BVPS and EPS – since the mandatory convergence with IFRS. It suggests that majority of the firms in the sample experienced growth over the period of study. All the results are significant at the 1 percent threshold.

Table 1: Descriptive Statistics

	Mean	**Median**	**SD**	**Maximum**	**Minimum**
MVPS	513.44	142.65	1628.81	30780.65	0.25
LnMVPS	2.14	2.15	0.71	4.49	-0.60
BVPS	147.90	78.52	283.87	7260.22	-1083.38
EPS	14.42	5.69	45.00	814.78	-391.22

Notes: *n = 5460.*

Table 2: Descriptive statistics and parametric tests

	Mean (pre)	**Mean (post)**	**t-test**	**SD (pre)**	**SD (post)**	**f-test**
MVPS	410.71	607.03	6.513***	1213.61	1987.92	2.683***
BVPS	132.84	164.69	4.809***	243.32	338.53	1.935***
EPS	11.94	16.75	4.388***	38.96	53.28	1.869***

Notes: ****p<0.01. Pre and post mandatory convergence periods; n = 1820 per period.*

5.2. Bivariate Analysis

Table 3 reports the Pearson correlation coefficients between the relevant variables for the full sample. Results show a positive and significant correlation between the MVPS and all the independent variables at the 1 percent level. There is a strong correlation between EPS and MVPS which is higher than that of BVPS. The association between BVPS and EPS is also positive and significant which further demands a test for collinearity. We test for multicollinearity using the Variance Inflation Factors (VIF). The VIF values are between 1.00 to 1.70, indicating a moderate correlation between the independent variables and thereby confirming the absence of multicollinearity.

Table 3: Correlation Matrix

	MVPS	**LnMVPS**	**BVPS**	**EPS**	**IndAS**	**VIF**
MVPS	1					
LnMVPS	0.51***	1				
BVPS	0.61***	0.49***	1			1.70
EPS	0.74***	0.54***	0.64***	1		1.70

Table 3: continued					
IndAS	0.06***	0.10***	0.07***	0.06***	1	1.01

Notes: ***p<0.01.

5.3. Multivariate Analysis

In this section, we test our hypotheses related to the relationship between the stock prices of Indian listed companies and their reported earnings and book values of equity. We move further towards understanding the impact of the IFRS convergence in India on the value relevance of the reported accounting information.

5.3.1. Value relevance of accounting information of Indian listed companies

We use econometric tools on our panel data of 910 Indian listed companies to examine the relationship of their market value of equity with their earnings and book value. In order to specify the existence of fixed or random effects, we run the Hausman test on model (1). With a $\chi 2$ value of 238.82 and p-value of 0.000, the Hausman test suggests that model (1) is a fixed effects model. Table 4 displays the results of our multiple regression based on the fixed effect model. The results show that the adjusted R2 is 0.8878 which indicates that the regressors, BVPS and EPS, explain 88 percent of the variation in MVPS and the model is significant (F-statistic = 48.43; p-value = 0.000). It is observed that the regression coefficients of BVPS and EPS are positive and significant. Both the key accounting variable have a positive and statistically significant relationship with the stock prices of firms. It is noteworthy that EPS explains the variation in MVPS better than BVPS.

Table 4: Regression results for value relevance

	Estimate	**t-statistic**
Intercept	2.06508	426.08***
BVPS	0.00026	10.47***
EPS	0.00227	16.16***
Adjusted R2	0.8878	
F-statistic	48.43***	

Notes: ***p<0.01. 2013-14 to 2018-19; n = 5460. Model 1: $LnMVPS_{it} = \alpha + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \varepsilon_{it}$.

5.3.2. Impact of IFRS convergence on value relevance of accounting information of Indian listed companies

In this section, we examine the impact of the IFRS convergence on the value relevance of book value and earnings of our sample firms. Using model 1, we compare the results for the pre mandatory convergence and post mandatory convergence periods while excluding the period of phased convergence. Table 5 summarizes the comparative results for the period between 2013-14 to 2014-15 and 2017-18 to 2018-19. The Hausman test was run on model (1) for both the sub samples and it suggested the use of the fixed effects estimator. The adjusted R2 shows an increase from 0.9352 in the pre mandatory convergence period to 0.9489 in the post mandatory convergence period. Both results are significant at the 1 percent level with F-statistic values of 29.82 and 38.14 respectively. The coefficients for BVPS and EPS are also positive and significant during both the

periods. Although we see a decline in the explanatory power of BVPS and EPS in the post-convergence period, there is an improvement in the overall predictive power (adjusted R2) of the value relevance model followed by the convergence with IFRS. The result may be attributed to improved quality of information reported under IFRS converged IndAS. However these results are based on data belonging to two different accounting regimes – Indian GAAP and IndAS.

Table 5: Regression results for value relevance in the pre and post mandatory
IFRS convergence periods

	Pre-convergence	**Post-convergence**
Intercept	1.8956*** (116.85)	2.1043*** (121.86)
BVPS	0.00112*** (10.27)	0.00031*** (2.86)
EPS	0.00212*** (7.08)	0.00011*** (0.51)
Adjusted R2	0.9352	0.9489
F-statistic	29.82***	38.14***

*Notes: Values in the parentheses are t-statistics; ***p<0.01. pre-IFRS: 2013-14 to 2014-15 & post-IFRS: 2017-18 to 2018-19; n = 1820 per period. Model 1: $LnMVPS_{it} = \alpha + \beta_1\ BVPS_{it} + \beta_2\ EPS_{it} + \varepsilon_{it}$.*

In order to identify whether IFRS convergence has had a positive or negative impact on value relevance, we employ model (2) which introduces IndAS as the dummy variable to indicate the application of the mandatory IFRS converged standards. The model is a fixed effects model based on the Hausman test results ($\chi2 = 292.67$ and p-value of 0.000) and is first run on the full sample and then after excluding the data pertaining to the phased convergence period (2015-16 and 2016-17) from the sample. The regression results in Table 6 report an adjusted R2 of 0.8910 for Panel A, which indicates that the regressors, along with the dummy variable, explain 89 percent of the variation in the market value. We compare this with our regression results for model 1 (Table 4) and observe an increase in the adjusted R2 from 0.88 to 0.89. The dummy variable IndAS is positive with a coefficient of 0.0757 and is significant at the 1 percent threshold. It is noteworthy that the analysis produces a slightly reduced adjusted R2 of 0.86 when we exclude the time periods during which only a select number of firms had switched to IFRS converged standards. The dummy variable continues to be positive and statistically significant but its explanatory power reduces. The findings support our second hypothesis that the transition to IFRS converged IndAS has a positive impact on the value relevance of accounting information based on the Ohlson Price Model.

Table 6: Regression results for IFRS convergence impact on value relevance

	Panel A: Including phased convergence period (n=5460)	**Panel B: Excluding phased convergence period (n=3640)**
Intercept	2.02524*** (343.21)	2.01064*** (266.54)
BVPS	0.00024*** (9.71)	0.00027*** (8.24)
EPS	0.00219*** (15.78)	0.00201*** (11.36)
IndAS	0.07572*** (11.50)	0.06804*** (7.59)
Adjusted R2	0.891	0.863
F-statistic	49.92***	26.10***

*Notes: Values in the parentheses are t-statistics; ***p<0.01. 2013-14 to 2018-19. Model 2: $LnMVPS_{it} = \alpha + \beta_1\ BVPS_{it} + \beta_2\ EPS_{it} + \beta_3\ IndAS_{it} + \varepsilon_{it}$.*

In the last step, we add the interactions of BVPS and EPS with the dummy variable IndAS to arrive at model 3. This is aimed at measuring the incremental effects of the tested variables (Kouki, 2018a; Nijam & Jahfer, 2018). The fixed effects model fitted with 5460 total firm-year observations for the full sample is significant at 0.01 level with F-value of 50.01. The BVPSxIndAS has a negative coefficient of -0.00017 and is statistically significant. However EPSxIndAS is positive (0.00069) and statistically significant. The adjusted R2 remains the same as in Table 6. Although the BVPS coefficient shows a negative impact, the decline is marginal. The model gives similar results for the sub-sample excluding the phased convergence period. The adjusted R2 shows a decline from 0.89 to 0.86. The overall impact of the mandatory IFRS convergence on value relevance is positive and has improved the quality of accounting information of listed companies in India.

Table 7: Regression results for IFRS convergence impact on value relevance of BVPS and EPS

	Panel A: Including phased convergence period (n=5460)	**Panel B: Excluding phased convergence period (n=3640)**
Intercept	2.01502*** (306.32)	1.99776*** (233.03)
BVPS	0.00036*** (9.48)	0.00041*** (8.31)
EPS	0.00168*** (7.34)	0.00148*** (5.16)
IndAS	0.08941*** (11.79)	0.08528*** (8.27)
BVPS x IndAS	-0.00017*** (-4.27)	-0.0002*** (-3.85)
EPS x IndAS	0.00069*** (2.87)	0.00077*** (2.45)
Adjusted R2	0.8914	0.8635
F-statistic	50.01***	26.18***

Notes: *Values in the parentheses are t-statistics; ***p<0.01. 2013-14 to 2018-19; n = 5460. Model 3: $LnMVPS_{it} = \alpha + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 IndAS_{it} + \beta_4 BVPS_{it} \; x \; IndAS_{it} + \beta_5 EPS_{it} \; x \; IndAS_{it} + \varepsilon_{it}.$*

6. SUMMARY AND CONCLUSION

The study determines the value relevance of accounting information for a diverse sample of 910 listed firms in India. First we run the basic Ohlson model on the complete dataset to measure the explanatory power of two accounting variables – BVPS and EPS. We use the model to further compare the value relevance of our sample's financial information over the pre and post mandatory convergence periods. For this regression, we leave out the data for 2015-16 and 2016-17 since the two years mark the period of a phased convergence wherein only a select number of firms switched to the IFRS converged standards. Finally, we measure the impact of IFRS convergence on the value relevance of equity book values and earnings and also add interaction terms to analyze the impact of IFRS on each explanatory variable.

The results based on the fixed effects estimator suggest that the book values of equity and earnings of Indian listed firms are value relevant. The earnings of the sample firms are more value relevant than the book value. It can be attributed to the high correlation between the earnings and stock prices. Therefore we accept our first hypothesis that the equity market values of Indian listed firms have a significant relationship with their reported earnings and book values of equity. Researchers

have studied value relevance of accounting information in many perspectives. Literature offers highly contradicting results about the increase or decline in the relevance of accounting information since the implementation of IFRS. This study makes a comparison of the value relevance between the pre and post convergence period. The result suggests a nominal increase in the overall explanatory power of the model. However it also reveals a decline in the ability of the regressors to explain the stock price. We test our second hypothesis to test the impact of IFRS. The results show a positive and statistically significant impact of the IFRS converged IndAS on the value relevance of accounting variables. It confirms our second hypothesis that IFRS has a positive influence on value relevance which is in line with the findings of Chebaane and Othman (2014); Iatridis (2010); Kouki (2018a); Temiz and Gulec (2017). Although the overall predictive power of the value relevance model improved with the IFRS convergence, incremental value relevance of BVPS shows a marginal decline similar to studies by Alnodel (2018) and Elbakry et. al. (2017). The findings remain fairly constant even on the exclusion of the phased convergence period. The IndAS have a positive impact on accounting information related to revenue, property, plant and equipment and equity. This new accounting framework is more principle based in contrast to the old rule based system. The fair valuation of assets, financial instruments and methods of revenue recognition under the IndAS improve the levels of earnings and equity value.

In the knowledge of the researchers, it is the first study which investigates value relevance in the Indian context since the remarkable transition to the international standards by using a large sample. India being home to a large number of listed companies, this study can serve as a yardstick for assessing the benefits of the standard setting exercise which is still undergoing revisions. The findings could also be of relevance to standard setters, firms, regulators and practitioners. It has positive implications for firms and the capital markets in India since an increased value relevance can instill confidence in investors about the reliability and the credibility of accounting information.

DECLARATION OF CONFLICTING INTERESTS

FUNDING

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