Impact of IFRS Convergence in India: An Evidence from First-Time Adoption of Indian Accounting Standards

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Abstract

Based on first set of Ind AS compliant financial statements released by Indian companies in Phase I of the IFRS convergence process, this study aims at examining whether profit and equity are significantly impacted because of IFRS convergence, and whether such impact is size dependent. Research hypotheses are designed to re-verify a well established 'value relevance' theorem of IFRS adoption / convergence in the Indian context and to evaluate if net worth based phasing of IFRS implementation in India as well as exemption from IFRS adoption is justified.

Paired samples t-test and Wilcoxon Signed Ranked test are applied to a sample of 100 Ind AS compliant listed companies for comparing means of IGAAP equity and Ind AS equity on the date of transition, i.e. 1 April 2015, and on the comparative period reporting date, i.e. 31 March 2016. Ind AS total comprehensive income is compared to IGAAP profit for the comparative period i.e. 2015-16.

Results show that Ind AS adjustments to equity have significant impact despite IFRS carve outs in India but total comprehensive income as per Ind AS is not significantly different from IGAAP profit although various items of other comprehensive income (OCI) are recognised in the IFRS convergence process. This implies that influence of OCI on profit of the non-financial sector companies in India is not significant. Also, applying multiple regression analysis it is found that size of the company is relevant in explaining change in equity caused by IFRS convergence.

Keywords: amortised cost, fair value through profit and loss, other comprehensive income, IFRS convergence, Indian accounting standards

1. IFRS Convergence in India

Significant foreign stock holding in Indian companies and wide participation of foreign institutional investors in Indian securities market necessitate adoption of uniform financial reporting system in consonance to G20 commitments. Also, improvement in International Financial Reporting Standards (IFRS) during the last decades prompted India to set IFRS convergence agenda as early in 2011-12 which was delayed till 2016-17 to facilitate smooth transition by Indian companies. Since the gap between accounting standards (IGAAP)[1] which are based on pre-2004 version of International Accounting Standards and the IFRS has widened over the years, IFRS convergence has been viewed as a major qualitative change in the Indian financial reporting system.

India has opted for phased implementation of Indian Accounting Standards (Ind AS)[2], the converged IFRS, as a replacement of the IGAAP prioritized by the size of net worth possibly for balanced utilization of IFRS professionals. Unlisted companies having net worth of less than Rs. 2.5 billion are exempted from application of converged IFRS. Ind ASs are significantly different from IGAAP as regards measurement, recognition and disclosure principles of various financial statement elements. Twenty-two major differences that could significantly impact IGAAP based financial statement elements in the IFRS convergence process are presented in Appendix II.

Ind ASs are based on partial fair value measurement (hybrid measurement model followed in the IFRSs) by which financial assets are primarily measured at fair value while cost alternatives are allowed for tangible fixed assets and intangibles, IGAAP are primarily based on cost model. Moreover, application of the revaluation model to intangible assets is constrained to observable market price in the line of IAS 38 *Intangible Assets*, and investment property is further constrained to be measured at historical cost because of fair value carve out in Ind AS 40 *Investment Property*. Applicability of fair value measurement principle of IFRS is also constrained by *amortized cost* measurement basis to financial assets and financial liabilities which have scheduled cash flows representing solely principal and interest.

In a way the amortized cost, which is measured as the present value of future cash flows discounted at effective interest rate or market yield on the date of transaction, is secluded from the volatility of market price. A major portion of the financial assets and financial liabilities would usually fall in this category which further restricts the scope of fair value measurement. Comparative measurement bases of Ind AS and IFRS are presented in Table 1.

Table 1. Comparative measurement Bases of Ind AS/ IFRS and IGAAP

Type of Assets	**Ind AS**		**IGAAP**	
	Initial recognition	**Subsequent measurement**	**Initial recognition**	**Subsequent measurement**
Property, Plant and equipment Bearer Plant	Cost	Cost or revaluation model	Cost	Cost
Intangible assets	Cost	Cost or revaluation model	Cost	Cost
Investment property	Cost	Cost	Cost	Cost
Biological assets Except Bearer Plant	Fair value less costs to sell	Fair value less costs to sell	Cost	Cost
Inventories	Lower of cost and net releasable value	Lower of cost and net releasable value	Lower of cost and net releasable value	Lower of cost and net releasable value
Long term investments	Fair value	Amortized cost or fair value	Cost	Cost unless there is permanent diminution in cost
Short term investments	Fair value	Fair value	Cost	Lower of cost or market value
Stand-alone derivatives	Fair value	Fair value	Cost	Cost
Financial Liabilities	Fair value	Amortized cost or fair value	Maturity value	Maturity value
Provisions	Present value	At present value or fair value	Maturity value	Maturity value
Assets acquired in business combination	Fair value	Cost or revaluation model	*Purchase method* Fair value	Cost
Liabilities acquired in business combination	Fair value	Amortized cost or fair value	Fair value	Cost
Assets acquired in business combination			*Pooling of Interest method* At carrying amount of the acquire	At carrying amount of the acquire
Liabilities acquired in business combination			At carrying amount of the acquire	At carrying amount of the acquire
Investments in subsidiary, associate and joint ventures in separate financial statements	Cost or fair value	Cost or fair value	Cost	Cost
Non-current Assets held for sale	Lower of cost and fair value less cost to sale	Lower of cost and fair value less cost to sale	Cost	Cost

Despite limited application of fair value, and use of lesser percentage of financial assets by non-financial sector companies, it is expected that differences in recognition and measurement principles of IGAAP and Ind AS should cause significant impact. Further, total comprehensive income (TCI) as a new profit measure includes profit after tax (PAT) and various items of other comprehensive income (OCI) in accordance with IAS 1/ Ind AS 1 *Presentation of Financial Statements* which would cause difference between IGAAP and Ind AS profit. Therefore, it is considered important to enquire if IFRS convergence in India produces significantly different equity and profit numbers. In the context of phased implementation of Ind AS based on size of net worth, it is considered relevant to further enquire if difference in equity is size dependent. These research queries would help to substantiate value relevance studies using IFRS based financial information derived from recent experience of IFRS convergence in India and support practice of phased IFRS convergence and decision to exempt unlisted companies having net worth lower than Rs. 2.50 billion from IFRS convergence

1.1 First Time Adoption of Ind AS and Differences in Equity

IFRS 1 *First time adoption of Ind ASs* (Ind AS 101) provides mandatory and optional exemptions from retrospective application of new standards to facilitate less costly change over except that Ind AS 101 grants two critical exemptions –

1. Carrying amount of property, plant and equipment, intangible assets and investment property under the previous GAAP can be treated as deemed cost under Ind ASs; and
2. Carrying amount of the long-term foreign currency denominated monetary items can be carried forward in Ind AS and the accounting policy of deferral of exchange fluctuation difference if opted under the previous GAAP can be continued.

Sample companies exercised these exemptions which reduces the gap between Ind AS and IGAAP equity. Ind AS transition reconciliation statement provides useful information about the differences in equity as per the IGAAP and Ind AS. The sample companies presented the reconciliation in two different ways – some companies have presented only reconciliation of balance sheet items but most of the companies have presented reconciliation of both balance sheet items as well as separate equity reconciliation by major issues. Major issues of equity reconciliation on the date of transition and reporting date of the comparative period as disclosed by the sample companies in the transition reconciliation statement are presented in Table 2.

Table 2. Major issues in equity reconciliation in Ind AS application

Sl. No.		Major issue in equity reconciliation	Applicable standards
1		*Fair valuation of financial assets and financial liabilities*	Ind AS 109 / IFRS 9
	i.	Fair valuation of FVTOCI equity investments	
	ii.	Fair valuation of FVTOCI debt investments	
	iii.	Fair valuation of FVTPL financial assets and financial liabilities	
	iv.	Amortized cost valuation of security deposit	
	v.	Amortized cost valuation of employee loan	
		Amortized cost measurement of financial assets and financial liabilities	
	vi.	Adjustment of transaction costs, premium and discount in amortized cost measurement	
	vii.	Fair valuation of financial guarantee	
	viii.	Discounting effect on deferred liabilities	
	ix.	Fair valuation of derivatives	
	x.	Impact of discounting long term contractual obligations	
	xi.	Discounting of retention money	

	xii.	Time value of forward contract	
	xiii.	Fair valuation of advances	Ind AS 32 / IAS 32
	xiv.	Fair valuation of preference shares	
	xv.	Fair value measurement of optionally convertible debentures	
2		*Impairment of financial assets*	Ind AS 109 / IFRS 9
		Effect of expected credit loss on trade receivables	
3		*Provisions*	Ind AS 37/
	i.	Discounting provisions	IAS 37
	ii.	Unwinding of discount on provision	
	iii,	Decommissioning liability	
	iv	Mine closure provisions	
4		*Employee share based payment*	Ind AS 102/
		Impact of fair value measurement	IFRS 2
5		*Treasury shares*	Ind AS 32/
	i.	Change in measurement of treasury shares	IAS 32
	ii.	Adjustment of shares held by trusts	
6		*Joint Ventures*	Ind AS 28/
		Change in accounting from proportionate consolidation to equity method	IAS 28
7		*Business Combinations*	Ind AS 103/ IFRS 3
	i.	Expensing acquisition costs	
	ii.	Retrospective effect on business combination	
	iii.	Discounting contingent consideration	
	iv.	Restatement of result due to merger	
8		*Subsidiary*	Ind AS 110/
	i.	Change in non-controlling interest	IFRS 10
	ii.	Change in status of subsidiary due to definition of control	
9		*Property, Plant and Equipment*	Ind AS 16/
	i.	Fair valuation of PPE	IAS16
	ii.	Capitalization of stores and spares and depreciation	
	iii.	Spare accounting	
10		*Intangible assets*	Ind AS 38/
	i.	Reversal of amortization of right of way	IAS38
	ii.	Recognition of intangible assets not eligible to be	
	iii.	Recognized under the IGAAP	
	iv.	Reversal of goodwill amortization	
11		*Leases*	Ind AS 17/
	i.	Reclassification of leasehold land	IAS 17
	ii.	Amortization of prepaid lease rentals	

12		*Government Grants*	Ind AS 20/
		Impact of reclassification of government grants	IAS 20
13		*Revenue recognition*	Ind AS 18/
	i.	Impact of service concession arrangement	IAS 18
	ii.	Provisioning for customer loyalty programs	
	iii.	Impact of advance on revenue recognition	
14		Reversal of proposed dividend and dividend distribution tax	Ind AS 10/
			IAS 10
15		*Adjustment of Prior period items*	Ind AS 8/
			IAS 8
16		*Adjustments to deferred tax*	Ind AS 12/
			IAS 12

Wide-ranging adjustments items affected IGAAP equity of the sample companies differently. Ind AS adjustments as % of IGAAP equity (ΔE2015%) fall in the range -24.8% to 85.46% with median of 3.73%, and ΔE2016% falls in the range of -34.36% to 113.93% with median of 3.1%. However, volatility of ΔE2015% and ΔE2016% remained stable at 17.99% and 16.84% respectively. However, positive value of ΔE2015 (Rs. 1158.59 billion) and ΔE2016 (Rs.1078.09 billion) signify that as a whole IFRS convergence had positively impacted equity of companies. So IGGAP measures appeared more conservative than Ind AS (IFRS converged set of standards). Presented in Figure 1 is the comparative IGAAP and Ind AS equity which are subjected to analysis under Research Hypothesis 1 whether mean of differences between IGAAP and Ind AS equity is significant.

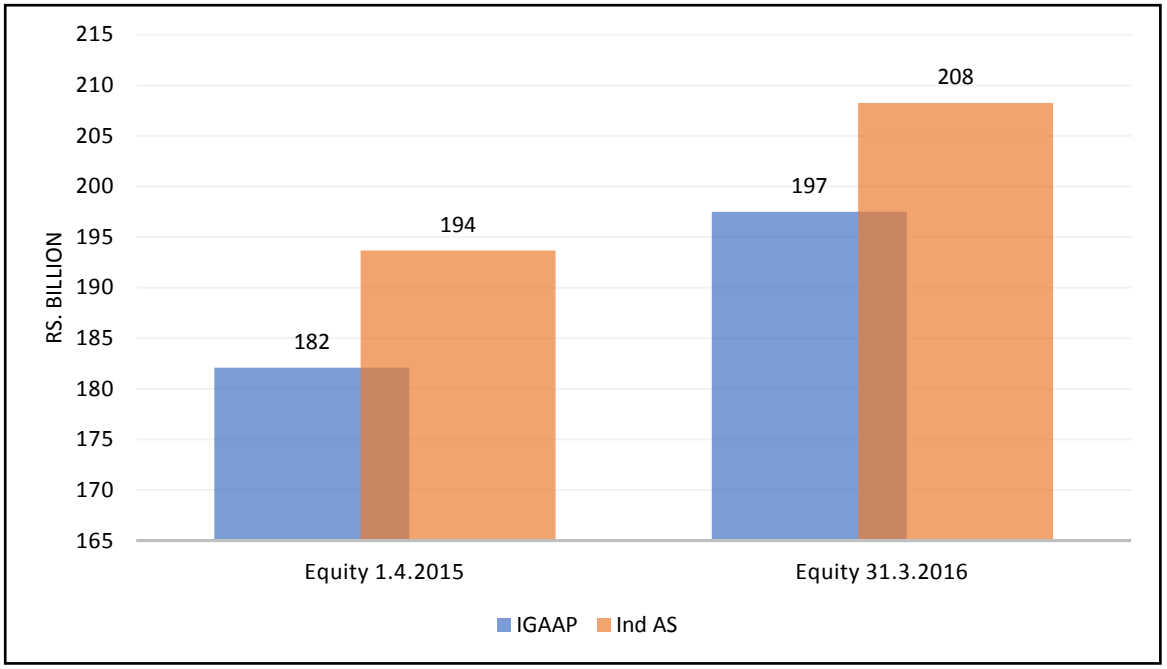

Figure 1. Average Equity under IGAAP and Ind AS

1.2 Profit and Other Comprehensive Income

Income measurement based on *comprehensive income* comprising of both realized and unrealized fair value gain/loss is an alternative way of looking into performance of an entity. TCI comprises of PAT reflecting managerial performance and OCI reflecting primarily changes in market factors. Realized gains and losses are included in traditional profit measurement along with unrealized gains/losses on fair value through profit or loss (FVTPL) financial assets and financial liabilities and foreign currency monetary items. But evaluation of unrealized gain /loss

on long term assets and liabilities would demonstrate whether any significant gain/loss is expected in future. Primarily, OCI can help users to understand impact of fair value gain/loss on long term assets and liabilities.

While it is difficult to define other comprehensive income since various items listed as OCI in IAS 1 *Presentation of Financial Statements* do not have any homogenous characteristics, list of other comprehensive income underpins the inherent unrealized fair value gain/loss on non-current assets and liabilities, cash flow hedges on which the hedged item remained unrecognized on the balance sheet date, impact of exchange rate on foreign operations and change in actuarial assumptions. However, IFRS classifications of gain or loss of FVTOCI equity or debt investments as OCI but fair value gain or loss on investment property as an item of profit or loss impair homogenous characteristics of OCI items.

Also, Ind AS expansion of the OCI list by inclusion of bargain purchase gain in business combinations breaks down the unrealized fair value gain characteristics since realized fair value gain on completed business combinations transaction is classified as an OCI item. Fair value carve out of investment property impairs fair value application to the entities holding investment property as an alternative investment. While equity and debt instruments are allowed to be classified either as FVTPL or FVTOCI, a fair performance measurement mechanism would require similar accounting treatment to investment property. Presented below in Table 3 is the list of OCI items reported by the sample companies which explains only 29.87% of difference between IGAAP profit and Ind AS total comprehensive income.

Table 3. List of Items of Other Comprehensive Income

	Abbreviations	**No. of Reporting Companies**	**OCI 2015-16 Rs. in Billion**
1. Remeasurement gain/ loss on defined benefit plans	DBO	99	54.18
2. Gain/loss Equity investments classified as fair value through other comprehensive income	FVTOCIE	46	-126.74
3. Gain/loss other financial assets classified as fair value through other comprehensive income	FVTOCIA	15	0.42
4. Cash Flow Hedge Reserve	CFHR	33	-10.37
5. Deferred gain / loss on investment hedge	DGIH	2	-7.14
6. Translation difference in Foreign Operations	TDFO	65	86.22
7. Translation difference in Long term Foreign currency monetary items (TDFCMI)	TDFCMI	2	-1.62
8. Share of OCI in associates and joint ventures	SOCI	36	1.42
9. Income tax on OCI items (presented separately)	ITOCI	88	-19.06
10. Other Items			-8.11
Other comprehensive income			**-30.80**
Other Ind AS adjustments			**-72.29**
OCI/ TCI%			-1.12%
Other Ind AS Adjustments / TCI %			-2.74%

Analysis of difference between profit as per IGAAP and Ind AS of 100 sample companies for the comparative period (i.e. accounting period 2015-16) shows that profit and TCI as per Ind AS were negatively impacted of which OCI adjustments accounted for -1.12% and other Ind AS adjustments accounted for -2.74%. Frequency of adjustments arising out of various OCI components is presented in Figure 2.

A survey of frequency of occurrence OCI elements of sample companies in 2016-17 (Figure 2) showed that out of various elements of OCI only nine elements are reported by the sample companies:

(1) Remeasurement of Defined Benefit Plan (RDBP) is common in the sample companies. It shows adjustment for actuarial gain covers 31.31% of negative OCI elements.

(2) 65% of the sample companies reported Translation difference in foreign operations (TDFO) and a significant positive translation gain has been reported which offset 49.82% negative OCI elements. A significant fair value loss has been reported on long term equity investments despite positive movement in Indian stock market indices.

(3) Fair value gain or loss on equity investments through other comprehensive income (FVTOCIE) is reported by 46% companies, while fair value gain or loss on other financial assets through other comprehensive income (FVTOCIA) is reported by only 15% companies;

(4) Cash flow hedge reserve (CFHR) is reported by 33% companies while Deferred gain / loss on investment hedge (DGIH) is reported by only 2% companies. Further negative cash flow hedge reserve would require further analysis of the efficacy of hedging methods.

(5) Share of OCI of associate companies or joint ventures (SOCI) are reported by 36% companies which signifies strong presence of associates and joint ventures.

(6) Infrequently reported elements of OCI are Translation difference on long term Foreign currency monetary items (TDLFCMI), Bargain purchase gain (BPG), OCI of discontinued Operations (OCIDO);

(7) Income-tax impact on OCI elements (ITOCI) are separately presented by 88% of the sample companies.

The above analysis (Table 3) indicates that OCI adjustments were offsetting by nature and did not substantially impactTCI.

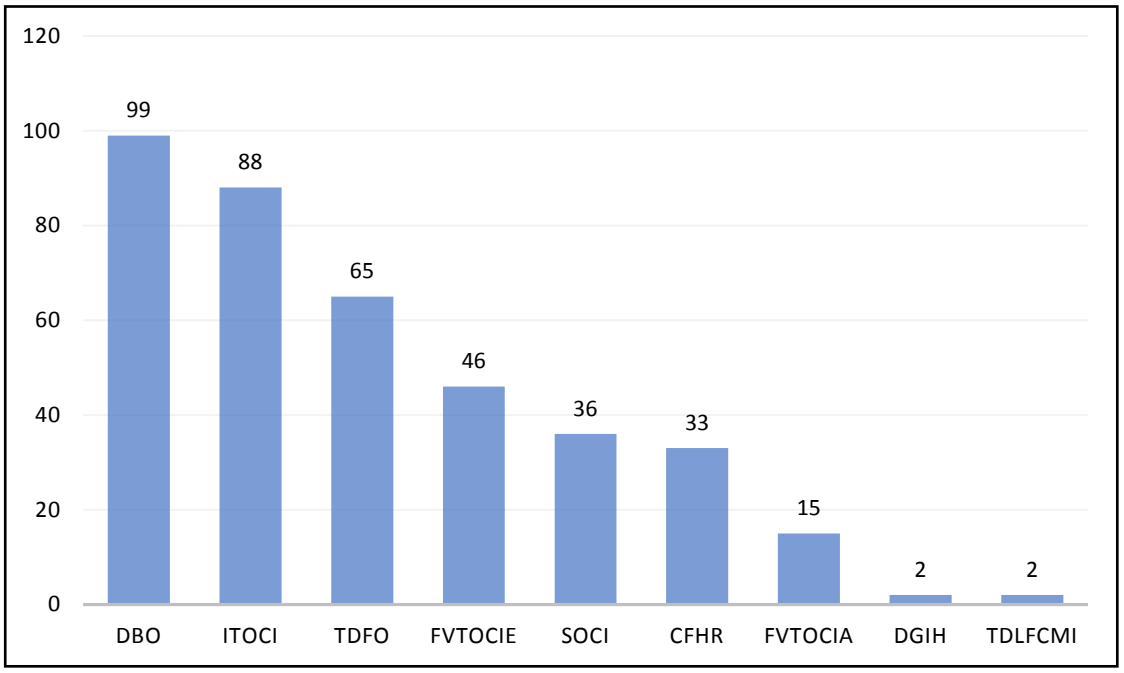

Figure 2. OCI By reporting companies

Although OCI and other Ind AS adjustments resulted in negative adjustments during the comparative period 2015-16, first -time adoption adjustments had positive impact reflecting positive difference of Ind AS equity over IGAAP equity. However, negative profit difference between Ind AS and IGAAP profit is subject matter of Research Hypothesis 2 whether such profit difference is significant. Presented below in Figure 3 is the aggregate profit of sample companies as per IGAAP and Ind AS.

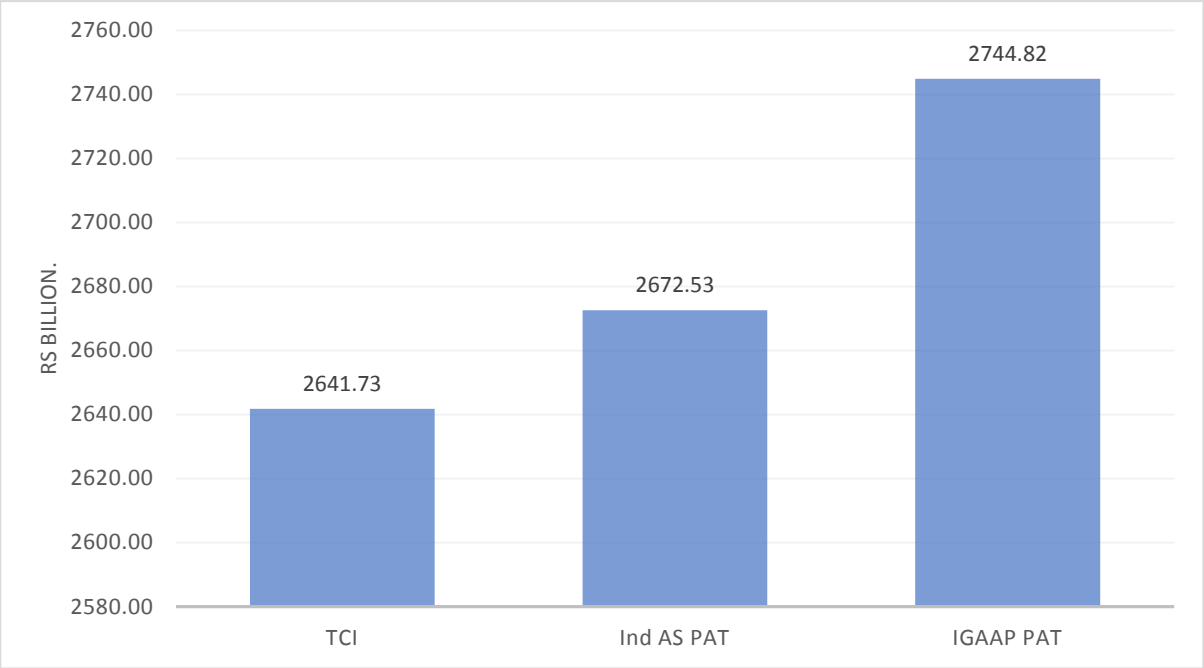

Figure 3. Comparison of Profit Measures 2015-16

In this research study, analyses are carried out based on first set of Ind AS based consolidated financial statements 2016-17 of 100 listed companies covering BSE SENSEX, NITFY, NIFTY Next 50 companies. Relevant data are sourced manually from published financial statements of the sample companies.

Paragraph 2 contains literature review highlighting three streams of research studies relating to IFRS implementation. Paragraph 3 details out research methodology including research hypotheses and brief discussion of the statistical methods used for data analysis. Paragraph 4 covers analysis of result , and Paragraph 5 presents summary and conclusions.

2. Literature Review

IFRS adoption triggered three streams of empirical research covering financial reporting effects, capital market effects and macroeconomic effects. The current paper fall in the first category i.e. financial accounting effect. In this category, research studies primarily cover (a) compliance with the IFRS and the accounting choices, (b) analysis of properties of accounting numbers, and (c) value relevance. For example , Schadewitz and Vieru (2007), Costel (2013), Kabir *et al* (2016) find increased value relevance of financial reporting after IFRS adoption, while Callao et al. (2007), Filip and Raffournier (2010), Dobija and Klimczak (2010), Terzi (2013), Aledo and Abellan (2014) and Piotr (2014) document a decline in relevance of financial reporting. Arshad *et al* (2016) found that size of entity matters in IFRS adoption implications.

Callao *et al* (2007) found no improvement in the relevance of financial reporting to local stock market operators because the gap between book and market values widens when IFRS are applied. In a different study of IFRS impact on various EU countries, Callao (2009) found that the first application of IFRS had different effects on the financial reporting among countries and grouped various EU countries on the basis of impact but concluded that IFRS is a different accounting system when compared to previous GAAP accounting numbers. Based on data of 135 Australian entities, Goodwin and Ahmed (2006) observed that more than half of small firms have no change in net income or

equity from A‐IFRS, and that there is an increase in the number of adjustments to net income and equity with firm size.

Maria (2015) studied impact of the IFRS adoption on financial assets and liabilities of Romanian listed companies measured through a set of twenty -three ratios and found that fourteen of the twenty -three ratios (more than 60%) record changes that range from -5% to +5%, which was interpreted (applying mean index of comparability scale) as a neutral impact of IFRS implementation. Romana (2014) found (based on a sample of sixty-seven Romanian companies) that the application of IFRS had a small effect on net income and shareholders' equity. Dobija (2010) found positive evidence of value relevance (based on sample from Warsaw Stock Exchange in Poland) but no improvement in the strength of the relationship over time. Terzi et al (2013) did not observe statistically significant difference in book value/market value ratio analysis depending on the market value under local GAAP and IFRS. However, in subsector analysis, they identified that some subsector groups have been affected by the IFRS transition. Based on data of banks listed on the Warsaw Stock Exchange during 1998-2012, Piotr (2014) observed that increase in the value relevance of both book values of equity and residual incomes of banks after introduction of IFRS is statistically insignificant. Aledo and Abellan (2014) found no evidence of increased value relevance after IFRS adoption in Spain.

3. Research Methodology

To evaluate significance of Ind AS adjustments two research hypotheses are developed based on preliminary investigation presented in Paragraphs 1.2 and 1.3.

Research hypothesis 1: Change in equity arising out of first time adoption of Ind AS is not significant

Change in equity is measured taking the difference between IGAAP equity and Ind AS equity on the date of transition to Ind AS, i.e. 1 April 2015 and reporting date of the comparative period to the first Ind AS compliant financial statements, i.e. 31 March 2016. Given that -

$\Delta E15_i$ = IGAAPE15_i - INDASE15_i; and

$\Delta E16_i$ = IGAAPE16_i - INDASE16_i;

Where $\Delta E15_i$ and $\Delta E16_i$ are differences between IGAAP equity and Ind AS equity on the date of transition to Ind AS, i.e. 1 April 2015 and on comparative period reporting date, i.e. 31 March 2016 respectively;

IGAAPE15_i and IGAAPE16_i are equity as per previous Indian GAAP on the date of transition and comparative period reporting date respectively;

INDASE15_i and INDASE16_i are equity as per Ind AS on the date of transition and comparative period reporting date respectively.

Null Hypothesis (H_0): $\Delta E15_i = 0$, and $\Delta E16_i = 0$;

Alternative Hypothesis (H_1): $\Delta E15_i \neq 0$, and $\Delta E16_i \neq 0$.

Research Hypothesis 2 Change in profit arising out of first time adoption of Ind AS is not significant

Change in profit is measured as the difference between profit as per IGAAP and total comprehensive income as per Ind AS during the comparative period, i.e. 2015-16.

$\Delta P16_i$ = IGAAPP16_i - INDASTCI16_i

where $\Delta P16_i$ = Difference between IGAAP profit and total comprehensive income as per Ind AS equity during the comparative period 2015-16;

IGAAPP16_i = Profit after tax as per IGAAP for the period 2015-16;

INDASTCI16_i = Total comprehensive income as per Ind AS for the period 2015-16;

Null Hypothesis (H_0): $\Delta P16_i = 0$.

Alternative Hypothesis (H_1): $\Delta P16_i \neq 0$

Some of the Ind ASs are substantially different from IGAAP while other Ind ASs have minor differences, and therefore significance of change in equity and profit depends on nature of assets and liabilities of companies subjected to Ind AS adoption. For example, Ind AS 109 *Financial Instruments* is substantially different AS 13 *Accounting for Investments* of the IGAAP. Companies having significant amount of financial assets and financial liabilities would have significant equity and profit adjustments. Similarly, there exists differences in depreciation charge of property, plant and equipment applying componentization, capitalization of major spares, classification of

land lease, amortization of intangible assets having indefinite useful life, and method of consolidation of joint ventures requiring switching over from proportionate consolidation to equity method accounting. Thus various companies are expected to be differently impacted by IFRS convergence. These research hypotheses have been designed to evaluate if the changes in equity and profit arising out of first time adoption of Ind ASs are significant. This would help the policy maker as well as the users to appreciate the value relevance of IFRS convergence.

In an earlier research work Ghosh (2017) found that ratios of OCI/ Ind AS Profit and OCI/TCI are not significantly different which signifies that impact of OCI arising out of IFRS convergence is not significant. It is also found that ratios of IGAAP equity to market capitalization and IND AS equity to market capitalization are not significantly different which implies that book to market ratio does not significantly differ. In this paper, it is attempted to re-verify whether equity and profit are significantly different although certain ratios are not significantly different. These research hypotheses take into account change in equity and profit rather than ratios of equity and profit.

To test Research Hypotheses 1 & 2 paired sample t-set is applied as Ind AS equity and profit are derived applying Ind AS adjustments to IGAAP equity and profit. Paired sample t-test compares two means which typically represent same object one before intervention and the other after intervention. The purpose of the test is to determine whether there is statistical evidence that the mean difference between paired observations on a particular outcome is significantly different from zero.

For the purpose of applying paired sample t-test, outliers[3] in equity difference series , $\Delta E16_i$ and $\Delta E16_i$, and profit difference series, $\Delta P16_i$ are identified applying weighted quartile difference. It is found that 20% of the data in each series fall outside Upper and Lower Bound based and therefore it is considered that elimination of the outliers would distort the randomness of the data series. So original data series are tested for normality applying Shapiro-Wilk test in SPSS. It is found that $\Delta E16_i$, $\Delta E16_i$ and $\Delta P16_i$ series are normally distributed and thus satisfy the pre-condition for paired sample t-test. Since $p \leq 0$, applying Shapiro -Wilk statistics null hypothesis that the distributions , $\Delta E15$, $\Delta E16$ and $\Delta P16$ are normally distributed, cannot be rejected.

Research Hypothesis 3 : Changes in equity and profit are impacted by size of IGAAP equity

This research hypothesis is intended to verify if Ind AS impact has any linear relationship with the size of the equity investment. Phased Ind AS implementation has the underlying assumption that companies having net worth of Rs. 5.00 billion and above might have comparatively higher impact than companies having net worth level below that.

Null Hypothesis : Change in equity arising out of Ind AS implementation is correlated to size of equity.

Alternative Hypothesis : Change in equity is not size dependent.

This is verified applying multiple regression analysis using size of equity as independent variable.

The following multiple regression equation is designed to test the influence of size on equity difference :

$$\Delta E16_i = \alpha_I + \beta 1_i \, IGAAPE15_i + \beta 2_i \, IGAAPE16_i + \varepsilon_i$$

Dependent variables $IGAAPE15_i$ and $IGAAPE16_i$ are used as proxy to size of companies that are expected to influence change in equity.

Table 4. Normality of Equity and profit differences

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	p	Statistic	Df	p
$\Delta E15$	.311	100	.000	.569	100	.000
$\Delta E16$	.229	100	.000	.659	100	.000
$\Delta P16$	.269	100	.000	.630	100	.000

a. Lilliefors Significance Correction

4. Findings

4.1 Research Hypotheses 1&2

Presented below in Table 5(a) and 5(b) are summarised results of paired sample t-tests. Paired Samples Correlations in Table 5(a) show the bivariate Pearson correlation coefficient (with a two-tailed test of significance) for each pair of variables is strongly and positively correlated.

Significant average difference is found between IGAAPE15 and INDASE15 ($t_{0\text{-}2.896}$, $p \leq 0.05$), and IGAAPE16 and INDASE16($t_{0\text{-}2.261}$, $p \leq 0.05$) , and on an average, IGAAP equity was lower than Ind AS equity. Thus the null hypothesis that difference between IGAAP and Ind AS equity on the date of transition and on the end date of the Ind AS comparative period is not significant is rejected since the 2-tailed significance (which p value in SPSS) is less than 0.5.

However, significant average difference is not found between IGAAP profit and Ind AS total comprehensive income ($t_{0.509}$, $p > .05$), and on an average , IGAAP profit is higher than Ind AS total comprehensive income. Thus the null hypothesis that difference between IGAAP profit and Ind AS total comprehensive income is not significant is retained since the 2-tailed significance is greater than 0.5.

Table 5(a). Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	IGAAPE15 - INDASE15	100	.992	.000
Pair 2	IGAAPE16- INDASE16	100	.993	.000
Pair 3	IGAAPP16- INDASTCI16	100	.967	.000

Table 5(b). Paired Sample t-test

		Paired Differences					t	Df	Sig.(2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	IGAAPE15 - INDASE15	-1189.95	4109.33	410.93	-2005.33	-374.57	-2.896	99	.005
Pair 2	IGAAPE16- INDASE16	-973.49	4305.42	430.54	-1827.79	-119.21	-2.261	99	.026
Pair 3	IGAAPP16- INDASTCI16	66.99	1316.43	131.64	-194.21	328.20	.509	99	.612

Thus in the case of Pairs 1 and 2, $p \leq 0.05$ and therefore null hypotheses that $\Delta E15_i = 0$, and $\Delta E16_i = 0$ are rejected but in the case of Pair 3 , $p \geq 0.05$ and so null hypothesis that $\Delta P16_i = 0$ is retained.

Non-parametric Wilcoxon Signed Rank test is applied as additional statistical tool to evaluate the significance of equity and profit differences. Results are presented in Appendix I. In accordance with Wilcoxon Signed Rank test, null hypotheses that 'median of differences between IGAAP equity and Ind AS equity are equal' is rejected. But the null hypothesis that 'median of differences between IGAAP profit and Ind AS total comprehensive income' is retained. The results of parametric paired sample t-test and non-parametric Wilcoxon Signed Rank test are found to be consistent.

The resultant significant positive equity difference arising out of IFRS convergence signifies cumulative impact of differential accounting treatments of Ind ASs and IGAAP, and that equity has been positively impacted. Ind AS carve outs (Paragraph 1.1 , carve outs 1 and 2) did not have off -setting impact. In fact, only 2% of sample companies were impacted by carve out of long -term foreign currency monetary items. Data showing impact of the carve out relating to IGAAP carrying amount of property, plant and equipment, intangible asset and investment property as deemed cost as per Ind AS is not available. However, profit difference has been analyzed for the comparative period, and impact of Ind ASs on revenue and expenses appears to be not significant given that

transitional differences are accounted for in retained earnings and other fair value reserves. It is also found that impact of OCI items (Table 3) is not significant (Ghosh,2017).

4.2 Research Hypothesis 3

Findings of multiple regression are presented in Tables 6(a)-(c) below:

Table 6(a). Correlation analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758[a]	.575	.566	4053.47

Table 6(b). ANOVA[a] Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2156041365.34	2	1078020682.67	65.611	.000[b]
	Residual	1593768541.28	97	16430603.52		
	Total	3749809906.62	99			

a. Dependent Variable: ΔE16

Table 6 (c). Coefficients[a] Table

Model[b]		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Beta	Std. Error	Beta		
1	(Constant)	-882.972	467.528		-1.889	.062
	IGAAPE15	-1.225	.127	-6.343	-9.657	.000
	IGAAPE16	1.191	.116	6.719	10.229	.000

a. Dependent Variable: ΔE16

b. Predictors: (Constant), IGAAPE16, IGAAPE15

Size of the equity explains 57.5% of equity difference. Since F (2,97) =65.611, $p<0$, $R^2 = 0.575$, both the variables are added statistically significantly to the prediction of equity difference. Regression coefficients of IGAAPE15 and IGAAPE16 are significant except for the constant. It is thus observed that size of equity on the date of transition and on comparative reporting date are important determinants of equity difference and so phased implementation of Ind AS has rationale. And also exemption to unlisted companies having net worth below Rs. 2.5 billion is justified. However, impact of IFRS convergence on smaller sized company should be effectively substantiated using first set of Ind AS based financial statements of Phase II companies.

5. Summary and Conclusions

Empirical analyses of this paper show that Ind AS has significant negative impact on equity and also size of equity appears to be a determinant factor to equity difference during the comparative period. But no significant difference in profit has been found. Differences in profit and equity perhaps depend on nature of financial statements elements which in turn depends on applicability of various Ind ASs and comparative differences in IGAAP and Ind ASs. Therefore, it requires analysis of equity difference by nature of assets and liabilities rather than simply by size of equity. Hence scope of further research is found in terms of evaluating differences in non-current and current assets, liabilities, revenue and expenses, and also differences in widely used financial ratios. Also further research should be carried out to validate the findings based on first set of financial statements of Phase II companies as well as of financial institutions.

The limitation of the paper is that it did not attempt to evaluate whether Ind AS based accounting numbers would be better estimator of equity price and reduce the gap between market to book value which are considered as stronger indicators of value relevance of IFRS. Also, the current research did not link components of OCI items to equity price which could identify the critical fair value factors.

End Notes

1. IGGAP is the previous GAAP notified as per the Companies (Accounting Standards) Rules 2006. IGGAP became effective for accounting periods commencing on or after 7th December 20006.

2. Indian Accounting Standards are IFRS converged set of accounting standards that carry same paragraphs with certain carve outs. IFRIC and SIC Interpretations are included as Appendix to the appropriate standards. These standards are notified under the Companies Act 2013 of India with a timeline for implementation as per the Roadmap notified by the Ministry of Corporate Affairs, Government of India. In the **Phase 1** i.e. for the accounting period commencing on or after 1 April 2016 with comparative period ending on 31 March 2016, the Ind ASs become applicable to the following companies for the preparation and presentation of financial statements:

   – Companies whose equity or debt securities are listed or are in the process of listing on any stock exchange in India or outside India (listed companies) and having net worth of Rs.5.00 billion or more;

   – Unlisted companies having a net worth of Rs.5.00 billion or more

   – Holding, subsidiary, joint venture or associate companies of the listed and unlisted companies covered above.

   This research is based on first set of consolidated inancial statements along with reconciliation of equity and profit as per IGAAP and Ind AS. IGAAP is previous GAAP of India notified by virtue of Companies (Accounting Standards) Rules 2006 as amended from time to time

   In the **Phase II** i.e. for the accounting period commencing on or after 1 April 2017 with comparative period ending on 31 March 2017, the Ind ASs become applicable to the following companies for the preparation and presentation of financial statements:

   – Companies whose equity or debt securities are listed or are in the process of listing on any stock exchange in India or outside India (listed companies) and having net worth of less than Rs.5.00 billion or more;

   – Unlisted companies having a net worth of Rs.2.50 billion or more but less than Rs. 5.00 billion

   – Holding, subsidiary, joint venture or associate companies of the listed and unlisted companies covered above.

   Roadmaps for Scheduled commercial banks (excluding RRBs) and insurers/insurance companies

   Mandatory application of Ind AS for the accounting period commencing on or after 1 April 2018 with comparative period ending on 31 March 2018 by

   - Scheduled commercial banks excluding regional rural banks and all India term-lending and refinancing institutions;
   - Non-banking finance companies having net worth of Rs. 5.00 billion and above; and
   - Holding, subsidiary, joint venture or associate companies of scheduled commercial banks.

   Mandatory application of Ind AS for the accounting period commencing on or after 1 April 2019 with comparative period ending on 31 March 2019 by

   - All non-banking finance companies whose equity and/or debt securities are listed or are in the process of listing on any stock exchange in India or outside India and having a net worth less than Rs. 5.00 billion;
   - NBFCs that are unlisted companies, having a net worth of Rs. 2.50 billion or more but less than Rs. 5.00 billion;
   - Holding, subsidiary, joint venture or associate companies of companies covered above, other than those companies already covered under the corporate roadmap.

Adoption of Ind ASs by insurance companies is deferred till 2020-21 to give effect to IFRS 17 *Insurance contracts*.

3. Outliers are identified as data falling outside upper and lower bound.

   Lower bound = (Quartile 1 – Quartile difference) × 1.5

   Upper bound = (Quartile 3 + Quartile difference) × 1.5.

It is found that 20% of the data in each series fall outside Upper and Lower Bound and therefore elimination of the outliers would distort the randomness of the data series. So original data series are tested for normality applying Shapiro-Wilk test in SPSS.

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Appendix 1

Non-parametric test result of Research Hypotheses 1 &2

Null hypothesis	Test	Sig.	Decision
The median differences between IGAAP Equity (2016) and Ind AS Equity (2016) equals 0	Related samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis
The median differences between IGAAP Equity (2015) and Ind AS Equity (2015) equals 0	Related samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis
The median differences between IGAAP Profit (2016) and Ind AS Profit (2016) equals 0	Related samples Wilcoxon Signed Rank Test	.580	Retain the null hypothesis

Note : Asymptotic significances are displayed. The significance level in 0.05.

Appendix II

Major differences of IGAAP and Ind AS

Issues	IGAAP	Ind AS	Major differences of Ind AS as compared to IGAAP having impact on financial statement elements
1. Other comprehensive income	No corresponding standard	Ind AS 1 Presentation of Financial Statements	Separate and classified presentation of various items of other comprehensive income
2.Inventories	AS 2 Valuation of Inventories	Ind AS 2 Inventories	Fair valuation of purchases Write back of inventories which were earlier written down to net realizable value
3. Prior period and exceptional items	AS 5 Net Profit or Loss for the Period, Prior Period Items and Changes in Accounting Policies	Ind AS 8 Accounting Policies, Changes in Accounting Estimates and Errors	Methods of correction of prior period errors Recognition of exceptional items as ordinary accounting elements
4. Proposed dividend	AS 4 Contingencies and Events Occurring after the Balance Sheet Date	Ind AS 10 Events after the Reporting Period	Non-provisioning of proposed dividend and related dividend distribution tax
5. Deferred tax	AS 22 Accounting for Taxes on Income	Ind AS 12 Income Taxes	Deferred tax measurement on assets and liabilities carried at fair value

6. Componentization of property, plant and equipment	AS 10 Accounting for Fixed Assets	Ind AS 16 Property, Plant and Equipment	Depreciation impact arising out of componentization of property, plant and equipment Impact on repairs and maintenance and depreciation arising out of capitalization of major spares
7. Lease accounting	AS 19 Leases	AS 17 Leases	Reclassification of leasehold land as operating lease Allocation of operating lease rental Recognition of an arrangement as lease
8. Fair valuation of revenue	AS 9 Revenue Recognition	Ind AS 18 Revenue	Fair valuation of deferred revenue Deferral revenue based on continuing involvement in goods sold Fair valuation of service concession arrangements Provisioning for customer loyalty programs
9. Segregation of employee benefits	AS 15 Employee Benefits	Ind AS 19 Employee Benefits	Segregation of OCI and expense elements out of post-employment benefits
10. Implicit government grant	AS 12 Accounting for Government Grants	Ind AS 20 Accounting for Government Grants and Disclosure of Government Assistance	Fair valuation of government grant out of interest-free or concessional government loan
11. Translation of foreign operations	AS 11 The Effects of Changes in Foreign Exchange Rates	Ind AS 21 The Effects of Changes in Foreign Exchange Rates	Translation of integral and non-integral foreign operations applying current rate method
12. Application of all –in-cost approach	AS 16 Borrowing costs	Ind AS 23 Borrowing Costs	Recognition of borrowing cost on financial liabilities measured at amortized cost applying implicit interest rate
13. Change in consolidation method in relation to joint ventures	AS 23 Accounting for Investments in Associates in Consolidated Financial Statements AS 27 Financial Reporting of Interests in Joint Ventures	Ind AS 28 Investments in Associates and Joint Ventures	Application of equity method accounting joint ventures

14. Distinguishing equity and financial liability	No corresponding standard	Ind AS 32 Financial Instruments : Presentation	Accounting for preference shares Accounting for convertibles
15. Impairment analysis	AS 28 Impairment of Assets	Ind AS 36 Impairment of Assets	Change in method of measuring value in use – replacement of net realizable value by fair value less costs to sale
16. Discounting of provisions	AS 29 Provisions, Contingent Liabilities and Contingent Assets	Ind AS 37 Provisions, Contingent Liabilities and Contingent Assets	Discounting of provisions Recognition of decommissioning provisions
17. Biological assets	No corresponding standard	Ind AS 41 Agriculture	Measurement of biological assets at fair value
18. Fair valuation	Guidance Note	Ind AS 102 Share-based Payment	Fair valuation of employee stock option Fair valuation of tangible and intangible assets purchased under share based payment
19. Switching over to purchase accounting	AS 14 Accounting for Amalgamations	Ind AS 103 Business Combinations	Fair valuation of assets and liabilities acquired and purchase consideration
20. Change in measurement principle	AS 10 Accounting for Fixed Assets	Ind AS 105 Non-current Assets Held for Sale and Discontinued Operations	Application of lower of cost and fair value less costs to sale approach
21. Fair valuation and impairment	Partly covered by AS 13 Accounting for Investments	Ind AS 109 Financial Instruments	Fair valuation of financial assets and financial liabilities Impairment analysis Fair value accounting for derivatives Hedge accounting Change in valuation of long term receivables and payables
22. Ind AS impact on financial statements of subsidiary	AS 21 Consolidated financial statements	Ind AS 110 Consolidated Financial Statements	Change in valuation of assets and liabilities of subsidiary companies arising out of Ind AS application Impact on minority interest