



International Journal of Research in Finance and Management

P-ISSN: 2617-5754
E-ISSN: 2617-5762
IJRFM 2024; 7(1): 133-142
www.allfinancejournal.com
Received: 24-01-2024
Accepted: 29-02-2024

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Impact of IFRS on financial statement and ratios: Evidence from India

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DOI: <https://doi.org/10.33545/26175754.2024.v7.i1b.292>

Abstract

Purpose: The introduction of International Financial Reporting Standards (IFRS) around the world is one of the most significant development in the field of international accounting. IFRS differ from domestic accounting standards of various countries in many aspects and hence, financial statement preparers and users are concerned with the impact of these standards on financial statements and ratios. India converged to IFRS w.e.f financial year 2016-17 by introducing the Indian Accounting Standards or IND-AS. In this paper, an attempt has been made to measure the impact of IFRS on key financial statement items and ratios by taking a sample of 310 firms listed in India. The objective of this paper is to measure the impact of IND-AS on key financial statement items and ratios by comparing the AS & IND-AS financial statements for the year 2015-16.

Design: The impact on traditional ratios is analysed by measuring the difference between liquidity, profitability, market, turnover and solvency ratios calculated under both the standards for the same financial year i.e. 2015-16. The variability of these numbers under the two regimes has also been compared.

Findings: The results demonstrate that except Earnings per Share (EPS), Profit after Tax (PAT) & P/E ratio, all items and ratios are significantly different under IND-AS. The variability of the accounting numbers, however, is not statistically different except for Debt to Total Assets ratio.

Originality: This study contributes to the literature by analyzing the impact of IND-AS on all key ratios and financial statement items thus providing a comprehensive overview of the impact of transition. The results of this study provide direct evidence on the impact of IND-AS which is significant for majority of key accounting numbers and ratios. The formulae for IND-AS ratios have been revised keeping in mind the changes introduced by IND-AS which is a unique aspect of this study.

Keywords: Accounting standards, India, international financial reporting standards, ratios

1. Introduction

The implementation of Indian Accounting Standards (IND-AS) in India, aligning with the global acceptance of International Financial Reporting Standards (IFRS), represents a substantial accounting reform. These standards, applicable to designated entities starting from the financial year 2016-17, mark a pivotal moment in the history of accounting.

IND-AS differ from the previous Indian GAAP (AS) in many aspects such as revenue recognition, classification of debt & equity, fair valuation of investments, PPE & intangible assets, recording of deferred taxes on temporary rather than timing differences, explicit recognition to time value of money, share based payment, consolidation based on control, use of fair values in business combinations, recognition of biological assets & asset retirement obligations and classification of lease arrangements based on substance of the arrangement etc. IND-AS provide different recognition, measurement, presentation & disclosure requirements than AS. IND-AS also provide guidance in areas where no guidance/recommendation was provided under AS such as accounting for biological assets, service concession arrangement, exploration and evaluation of mineral resources etc. Consequently, the shift to IND-AS is expected to exert a substantial influence on the recorded metrics of financial standing, operational performance, and essential financial ratios for Indian companies. An opportunity to study the same is provided by IND-AS 101 (First Time adoption of Indian Accounting Standards) which makes it mandatory for companies adopting IND-AS for the first time to provide comparative amounts for the previous year,

thus restating the 2015-16 Indian GAAP (AS) financials as per IND-AS. Thus, for the year 2015-16, two sets of financial statements are available, one as per AS and other as per IND-AS. The restatement of Indian GAAP figures to IND-AS gives unique opportunity to understand how the various accounting items and various financial ratios change under Ind-AS.

In this study, we have measured the impact of IND-AS by comparing the financial statement attributes of the same year so that differences can be attributed to the change in underlying accounting standards. The profitability, leverage and liquidity ratios have been calculated under both the standards for financial year i.e. 2015-16. IND-AS have led to many changes which may affect how users such as lenders, credit rating agencies, investors, buy-sell analysts and management calculate and interpret ratios. In this paper, a comprehensive picture of the impact of transition to IND-AS is presented by taking into account all key ratios and accounting items. The formulas employed in calculating ratios under IND-AS have been modified in response to the alterations brought about by new standards. This adjustment ensures that users can derive meaningful and valid insights from the updated financial statements. This aspect distinguishes the current study as a unique contribution, as previous research on the impact of IFRS on financial statements has typically utilized identical ratios across both sets of statements, potentially overlooking the validity of these measures in light of the changes introduced by the new standards.

By applying the adjusted formulae on IND-AS financial statements, we have tried to demonstrate that IND-AS have brought about significant changes in measurement, recognition and classification of financial statement items and after application of reconciled formulae, there is a difference in the value of key financial statement items and ratios as measured under AS & IND-AS. The results of this study demonstrate a significant impact of IND-AS on majority of key accounting numbers and ratios. The impact of variability of accounting numbers is found to be insignificant.

2. Review of Literature

This section reviews the existing studies in the field of IFRS impact on financial statements in various countries.

In their 2007 study, Callao *et al.* 2007^[6] conducted a comparison of financial statement items and ratios from 26 Spanish companies, examining their presentation under both local GAAP and IFRS during the initial implementation of IFRS for each half-year and full year. The study revealed significant differences in liquidity ratios, as well as in the metrics of Return on Assets (ROA) and Return on Equity (ROE).

In their 2008 study, Goodwin *et al.*^[11] examined the financial statements of Australian companies during the 2005-2006 period to assess the impact of transitioning to IFRS on various financial statement elements, ratios, and value relevance. The analysis, conducted on a sample of 1065 firms, involved comparing summary figures and ratios under both Australian GAAP and IFRS for the same year. The study revealed that differences in key totals were insignificant, with the exception of equity and liabilities. Additionally, the study found that mean leverage, median

ROA, and median market-to-book ratio were higher under IFRS. However, IFRS equity and earnings were not found to be more value relevant than those under Australian GAAP.

Haller *et al.* (2009)^[13] studied the CFS of 103 German companies following the mandatory transition to IFRS in Europe. They studied the impact of IFRS as a whole and individual adjustments on equity & net income using Gray's Comparability Index and found that there was a statistically significant increase in equity and net income. The standards having the most impact were PPE, Employee benefits, Business Combinations on equity and net income. A limitation of this paper is the definition of equity & net income changes under IFRS so it is not clear which definition the authors have used for comparison.

In their 2009 analysis, Lantoo and Sahlström investigated the impact of IFRS on 91 Finnish companies by examining financial statements for the year 2005. The authors focused on eight key ratios, including ROE, OPM, ROCE, Equity Ratio, Gearing Ratio, Current Ratio, Quick Ratio, and P/E ratio. The findings indicated a decrease in P/E ratio, Equity, and Quick ratio and increase in solvency and profitability ratios. The authors concluded that standards related to fair value, leases, income tax, and financial instruments exerted the most significant influence on these outcomes.

In 2010, Tsalavoutas and Evans investigated how IFRS affected the financial position, performance, and key ratios of Greek-listed companies. Analyzing a sample of 238 companies that presented restated comparatives for the transition year (2004), the study revealed significant positive influence of IFRS on net income and book values of all companies.

Iatridis & Rouvolis (2010)^[15] studied 254 Greek companies listed on the Athens Stock Exchange during the period 2004-2006. After comparing 2004 IFRS restated figures with 2005 figures, they deduced that firms display higher leverage, lower profitability and higher book value under IFRS.

Fifield *et al.* (2011)^[9] analysed the IFRS effect by studying the financials of 169 companies from 3 countries: UK, Ireland & Italy for the year 2005. They used Gray's Conservatism index and tested for difference in the values as per local GAAP & IFRS for 169 sample companies belonging to 3 countries. They found that profits and net worth under IFRS were significantly higher for all 3 countries.

Dimitrios *et al.* (2013)^[8] studied 62 companies listed on Athens Stock Exchange for 2004. They compared 15 ratios divided into Liquidity, Leverage & Activity calculated alternatively under the two standards. Their results showed that majority of ratios did not differ under the standards for the entire set of companies except Debt ratio, Asset turnover, Fixed Assets turnover, Net profit margin & Gross Profit margin. For the two sets of companies, they found significant difference in Fixed Assets turnover & Gross Profit margin.

Munteanu *et al.* (2014)^[18] studied IFRS adoption in Romania in 2012. The author's analysed 56 firms listed on Bucharest stock Exchange and compared the mean, median & variance before & after IFRS of various financial ratios before & after IFRS. The authors found no significant difference in mean & median of the ratios.

Lueg *et al.* (2014)^[14] examined the statistical significance

of financial ratios under UK GAAP & IFRS in 101 listed U.K. companies. They studied 3 profitability ratios- Operating profit margin, Return on Equity & Return on capital, one liquidity ratio i.e. current ratio and one market-based ratio i.e. P/E ratio. They found that all 3 profitability ratios & current ratio increased significantly post IFRS whereas P/E ratio decreased. That the reason for changes in ratios is the increase in income, current liabilities & capital and decrease in shareholders' equity. In this paper, only few ratios are tested without any basis for selection. Also, ratios are not properly defined as the same formulae may not apply under both regimes.

Alia *et al.* (2015)^[21] conducted a study on the effects of the transition to IFRS on UK companies listed in the Alternate Investment market. By examining a sample of 115 firms, the researchers assessed the impact on both profit and equity. Their findings revealed that the shift to IFRS led to an average increase in profit by 6.66% and a decrease in equity by 1.71%. The study also concluded that the influence on equity and profit was comparatively smaller than what had been reported for larger entities in existing literature. However, a notable limitation of the study is the absence of a specified time period. Additionally, while the index values were tested for deviation from 1, indicating whether reported figures were higher or lower than under local GAAP, the study acknowledges the importance of quantifying the extent of these differences.

3. Research Gap

From the analysis of literature, we have been able to identify certain Research gaps which will be addressed in the present study. These are as follows.

1. Calculation of Ratios under IFRS: All the studies reviewed compare ratios under local accounting standards and IFRS for the same year as IFRS requires restatement of previous year local GAAP figures. None of these studies adjust the calculation of ratios in the light of recognition, classification and measurement changes introduced by IFRS. Most of the studies do not provide formulae for any ratios. All the studies have done a mere translation exercise of replacing the local GAAP figures with the IFRS figures in ratio calculation without readjusting ratio calculation & interpretation. This gap has been addressed in this study.

2. Studies based on consolidated financial statements: Most of the studies on the impact of IFRS on financial statements have been conducted in European countries using consolidated financial statements. Examining consolidated statements might not be suitable, as the influence of IFRS on subsidiaries can obscure the specific impact of IFRS on the individual company being investigated. Furthermore, such analyses offer an incomplete perspective on the effects of IFRS, as users may have a greater interest in the outcomes of an individual company rather than the entire group.

3. Methodology: Majority of the studies use a Conservatism Index developed by Gray (1980)^[12] to measure the impact of transition to IFRS. The original formula for Gray's index is.

$$\text{Gray's Conservatism Index} = 1 - \left(\frac{\text{Adjusted Profit} - \text{Disclosed Profit}}{\text{Adjusted Profit}} \right)$$

Gray's Conservatism index was intended as yardstick for comparing the profits of various companies against a neutral value of 1. Index value of higher/lower than 1 implies profits of companies to be more/less conservative than one. However, transition to IFRS is not a matter of testing application of prudence principle. Some authors have used the term Gray's Comparability Index. (Callao, 2007; Haller, 2009; Fifield, 2011; Ali, 2015)^[6, 13, 9, 3]. In the context of IFRS, the above formula is adjusted as follows.

$$\text{Gray's Comparability Index} = 1 - \left(\frac{\text{GAAP value} - \text{IFRS value}}{\text{IFRS value}} \right)$$

When applied in the IFRS context, this index merely tells whether local GAAP figures are higher/lower than IFRS. However, users and analysts are also interested in the extent of difference between the two. Our study addresses this gap.

4. Scope: The existing studies in this field provide an incomplete picture as they consider only selected financial statement items. We have addressed this gap by calculating all ratios.

5. Inadequate explanation of results: In all the studies reviewed, the authors conclude by stating the areas of significant difference in items under IFRS. However, the explanation of results is lacking. This study discusses each finding in detail and relates it to the specific change brought about by IFRS.

4. Research Objectives

Following are the objectives of our study

1. To determine the impact of IND-AS on key financial statement items such Net Worth, Net Income, Total Assets, Revenues & Long-term liabilities etc.
2. To determine the impact of IND-AS on profitability, liquidity, solvency and market value ratio of firms.
3. To measure the impact IND-AS on variability of financial statement items.

5. Research Hypothesis

Based on the differences between IND-AS & AS and the papers reviewed in the literature we have developed the following research hypotheses:

- **H1:** There is a difference between key financial statement items as reported under AS & IND-AS
- **H2:** There is a difference between profitability, turnover, liquidity, solvency and market value ratios as reported under AS & IND-AS
- **H3:** There is a difference between variability of key accounting items and ratios as reported under AS & IND-AS

6. Research Design & Methodology

6.1 Design

For measuring the impact of IND-AS on financial statements, 2 sets of ratios have been calculated and compared: (1) ratios based on AS financials (2) ratios based on IND-AS financials. The ratios were calculated for 2015-16. The ratios and financial statement items have been

compared under AS (as reported in the 2015-16 annual reports) & IND-AS (as reported under restated financials of 2015-16). This research design enables us to directly attribute changes in financial items and ratios to change in underlying accounting standards.

7. Sample

This study is based on a sample of S&P BSE 500 firms listed on Indian Stock Exchange. After removal of financial firms and firms not following IND-AS in the financial year 2016-17, the final sample consisted of 310 firms which transitioned to IND-AS in the year 2016-17.

7.1 Methodology

The financial statement figures and data for calculating ratios mentioned in Appendix 1 were manually extracted from annual reports for the year 2015-16 as prepared under

AS. The restated financials for the year 2015-16 were extracted from CIME proress database. On the data extracted, formulae as applicable under AS & IND-AS respectively were applied and comparative tests were run on 29 pairs of accounting values. Since, the ratios and accounting figures to be compared were not normally distributed, non-parametric tests i.e. Wilcoxon Signed Rank Test for comparison of averages and Siegel Tukey Test for comparison of variability were applied using statistical software packages SPSS & R.

8. Results and Discussion

8.1 Results

The following table provides a summary of descriptive statistics of the variables i.e. accounting items and ratios used in the study.

Table 1: Descriptive Statistics (Rs. in millions)

	Variables ^[1]	N	Minimum	Maximum	Mean	Std. Deviation
Accounting items	R&S_AS	310.00	(18,101.60)	2,369,360.00	61,058.22	181,313.30
	R&S_IAS	310.00	(16,383.20)	2,507,500.00	64,880.57	193,315.10
	LTB_AS	310.00	-	1,002,398.00	21,285.52	92,431.73
	LTB_IAS	310.00	-	1,001,733.00	21,431.06	92,612.76
	CL_AS	310.00	174.40	1,250,220.00	39,408.49	107,613.10
	CL_IAS	310.00	28.00	1,250,330.00	40,749.60	108,364.20
	TA_AS	310.00	2,760.17	4,577,200.00	133,897.70	367,289.80
	TA_IAS	310.00	121.10	4,821,120.00	145,244.40	395,739.10
	CA_AS	310.00	86.79	905,640.00	45,412.55	94,498.07
	CA_IAS	310.00	86.80	925,380.00	47,275.61	96,702.64
	SALES_AS	310.00	0.01	2,331,580.00	79,996.34	178,679.20
	SALES_IAS	310.00	0.01	2,512,410.00	84,902.62	191,420.10
	NW_AS	310.00	(9,024.93)	2,401,760.00	61,794.37	171,093.50
	NW_IAS	310.00	(10,388.70)	2,539,980.00	65,696.17	181,974.70
	PAT_AS	310.00	(41,372.60)	274,170.00	8,360.72	26,145.43
	PAT_IAS	310.00	(42,059.40)	273,840.00	8,346.49	26,274.46
	EPS_AS	310.00	(27.03)	630.04	31.66	60.22
EPS_IAS	310.00	(32.76)	637.18	30.16	63.20	
BVPS_AS	310.00	(25.46)	3,077.61	204.80	323.70	
BVPS_IAS	310.00	(17.33)	3,307.73	219.40	352.38	
Liquidity Ratios	CR_AS	310.00	0.11	25.45	1.87	2.01
	CR_IAS	310.00	0.11	25.58	1.86	1.98
	QR_AS	310.00	-	12.77	0.84	1.20
	QR_IAS	310.00	-	12.69	0.68	1.05
	CASH_AS	302.00	(0.03)	12.58	0.36	1.08
	Cash_IAS	302.00	-	12.51	0.20	0.94
Turnover ratios	RTR_AS	307.00	0.93	193.15	14.27	22.81
	RTR_IAS	307.00	0.81	193.64	13.79	22.60
	ITR_AS	223.00	1.71	9,852.62	174.11	864.21
	ITR_IAS	223.00	1.62	9,882.67	173.62	865.24
	PTR_AS	225.00	-	44.20	2.43	4.23
	PTR_IAS	225.00	-	57.56	4.72	5.02
	ATR_AS	309.00	0.04	3.62	0.91	0.59
	ATR_IAS	309.00	0.01	3.57	0.84	0.55
	FATR_AS	307.00	0.14	392.07	7.68	27.85
FATR_IAS	307.00	0.18	392.09	8.11	28.14	
Profitability ratios	NPM_AS	309.00	(0.30)	0.61	0.15	0.11
	NPM_IAS	309.00	(0.35)	0.64	0.11	0.11
	ROA_AS	310.00	(0.13)	0.52	0.13	0.09
	ROA_IAS	310.00	(0.11)	0.42	0.12	0.09
	ROCE_AS	310.00	(0.39)	1.11	0.14	0.13
	ROCE_IAS	310.00	(0.29)	0.95	0.20	0.14

¹ Variables under AS & IND-AS have been denoted using suffix _AS & _IAS respectively

Solvency ratios	ROE_AS	310.00	(0.45)	1.08	0.15	0.13
	ROE_IAS	310.00	(0.43)	0.83	0.14	0.13
	D/E_AS	230.00	(1.02)	6.78	0.35	0.59
	D/E_IAS	230.00	(0.89)	7.09	0.35	0.60
	ICR_AS	284.00	(54.06)	11,220.13	301.16	1,103.35
	ICR_IAS	284.00	(5.39)	4,719.71	140.72	505.30
	DSCR_AS	290.00	(14.65)	3,853.50	101.69	399.64
	DSCR_IAS	290.00	(0.54)	2,993.75	68.45	270.12
Market value ratios	DTA_AS	272.00	-	0.75	0.18	0.16
	DTA_IAS	272.00	-	0.68	0.18	0.15
	P/E_AS	263.00	0.89	680.24	31.63	56.33
	P/E_IAS	263.00	1.08	707.96	33.06	59.32
	P/B_AS	282.00	0.13	26.85	3.61	3.59
	P/B_IAS	282.00	0.06	25.60	3.48	3.37
	Tobin Q AS	284.00	0.12	14.38	2.23	2.20
Tobin Q IAS	284.00	0.10	14.21	2.09	2.11	

From Table 1, it is evident that majority of accounting items are on an average, higher under IND-AS. Liquidity and profitability ratios are on average, lower under IND-AS as compared to AS. Solvency and Market value ratios are on an average lower under AS as compared to IND-AS.

The variances under AS & IND-AS are higher for some values and lower for others. The following table presents results for difference of averages - non parametric (Wilcoxon Signed Rank Test).

Table 2: Results of Wilcoxon Signed Rank test: Difference of Averages (Non-parametric)

	Variables	Wilcoxon Test Statistic ^[2]	p value
Accounting items	R&S_IAS - R&S_AS	-7.440	0.00*
	LTB_IAS - LTB_AS	-2.572	0.01*
	CL_IAS - CL_AS	-4.095	0.00*
	TA_IAS - TA_AS	-12.793	0.00*
	CA_IAS - CA_AS	-8.995	0.00*
	SALES_IAS - SALES_AS	-9.549	0.00*
	NW_IAS - NW_AS	-7.684	0.00*
	PAT_IAS - PAT_AS	-.472	0.64
	EPS_IAS - EPS_AS	-1.748	0.08
Liquidity ratios	BVPS_IAS - BVPS_AS	-8.193	0.00*
	CR_IAS - CR_AS	-2.116	0.03**
	QR_IAS - QR_AS	-6.592	0.00*
Turnover ratios	Cash_IAS - CASH_AS	-9.044	0.00*
	RTR_IAS - RTR_AS	-8.305	0.00*
	ITR_IAS - ITR_AS	-3.722	0.00*
	PTR_IAS - PTR_AS	-11.761	0.00*
	ATR_IAS - ATR_AS	-11.970	0.00*
Profitability ratios	FATR_IAS - FATR_AS	-9.656	0.00*
	NPM_IAS - NPM_AS	-12.021	0.00*
	ROA_IAS - ROA_AS	-6.572	0.00*
	ROCE_IAS - ROCE_AS	-14.419	0.00*
Solvency ratios	ROE_IAS - ROE_AS	-6.213	0.00*
	D/E_IAS - D/E_AS	-3.997	0.00*
	ICR_IAS - ICR_AS	-4.593	0.00*
	DSCR_IAS - DSCR_AS	-2.019	0.04**
Market Value ratios	DTA_IAS - DTA_AS	-6.061	0.00*
	P/E_IAS - P/E_AS	-1.583	0.11
	P/B_IAS - P/B_AS	-7.229	0.00*
	TobinQ_IAS - TobinQ_AS	-11.834	0.00*

** and * denote significance at the 5 and 1 percent levels, respectively

As it can be seen from Table 2, the values of accounting figures and ratios under AS are significantly different from that under IND-AS for all variables except Profit After tax

(PAT), Earning Per Share (EPS) & P/E (Profit Earning ratio). The following table presents the results of difference of variances test - non-parametric (Siegel Tukey Test).

² For large samples, Wilcoxon test Statistic is normally distributed with

$$Mean = \frac{N(N+1)}{4} \text{ and } Variance = \frac{N(N+1)(2N+1)}{24}. \text{ The Z statistic for large samples is calculated as: } Z = \frac{Min(W^+, W^-) - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

of pairs.

Table 3: Results of Siegel Tukey test: Difference of Variances (Non-parametric)

Siegel-Tukey test			
	Variables	Test Statistics - W: Wilcoxon	p value
Accounting items	R&S	40230.5	0.9019
	LTB	42811	0.9515
	CL	38066	0.8300
	TA	38948.5	0.6040
	CA	37719	0.8917
	SALES	39905	0.7813
	NW	31948.5	0.7829
	PAT	40097.5	0.8295
	EPS	47751	0.8935
Liquidity Ratios	BVPS	296	0.3575
	CR	181	0.3641
	QR	246	0.3978
Turnover ratios	CASH	131	0.4041
	RTR	226	0.5660
	ITR	113	0.1923
	PTR	57	0.6418
	ATR	115	0.3913
Profitability ratios	FATR	262	0.9112
	NPM	123	0.9213
	ROA	252	0.2781
	ROCE	254	0.7046
Solvency ratios	ROE	263	0.5007
	D/E	119	0.1922
	ICR	185.5	0.4509
	DSCR	413	0.0992
Market value ratios	DTA	154	0.0024*
	P/E	261	0.2885
	P/B	143	0.8434
	Tobin Q	184	0.3187

** and * denote significance at the 5 and 1 percent levels, respectively

As it can be seen from Table 3, there is no significant difference in the variability of key accounting items and ratios under AS & IND-AS except for one of the solvency ratios i.e. Debt to Total Assets.

8.2 Discussion

As per the results obtained, it is evident that majority of the key accounting items and ratios are significantly different under IND-AS as compared to AS. This provides direct evidence of the impact of IFRS or new accounting standards on financial statements and analysis. This section provides an analysis of results obtained on a case-by-case basis.

8.3 Accounting items: Reserves & Surplus (Other equity) under AS is found to be significantly different than R&S under IND-AS. Moreover, there is an additional statement of profit known as Other Comprehensive Income which is included in 'Other Equity' in IND-AS which will also have an effect on Reserves & Surplus for the same year leading to difference between the two. Long Term Borrowings under IND-AS have been found to be significantly different than under AS, as under IND-AS redeemable preference shares are classified as liability and included under 'Borrowings'. Also, securities in the nature of equity such as compulsorily convertible debentures are reclassified as Equity. Hybrid instruments such as Optionally Convertible Debentures are classified into equity & debt portion respectively. Current Liabilities are found to be significantly different due to differential treatment of Proposed Dividend under IND-AS. Also, current maturity of long-term debt may also include

current portion of redeemable preference shares which were earlier classified as Share Capital under AS.

The amount of total assets is significantly different under IND-AS as IND-AS provides fair valuation option for PPE, Intangible Assets, Financial Assets & biological assets. There are also differences on account of Deferred Tax Assets. Certain companies have to recognize new assets such as Biological Assets & Enabling Assets. Depending on the exemptions availed by a company on transition as per IND-AS 101, this amount may differ significantly with the AS value of the same year. The amount of Current Assets is significantly different under AS & IND-AS. This may be due to differential treatment of Current Investments known as Current Financial Assets. Also, the amount of net trade receivables may also be different as IND-AS uses ECL model for provisioning of bad debts. The amount of Sales under AS is significantly different than under AS due to differential treatment of Excise Duty. The amount of Profit after Tax under AS & IND-AS is not found to be significantly different. This may be due to the fact that many adjustments on transition to IND-AS were carried out directly through Retained earnings (Other equity) bypassing the Income statement. Also, it is possible that positive and negative adjustments cancelled out each other leading to insignificant impact on net profits on an average. As a result, the amount of EPS & P/E ratio are also not found to be significantly different owing to the Profit after tax figure. Since, market price and number of shares outstanding is the same under AS and IND-AS, these results are in line with the previous results. There is a significant difference in Net

Worth under both the regimes due to the difference in Other Equity/Reserves & Surplus. The value of net worth for the transition year may also change due to the differing treatment of compound financial instruments. There is a significant difference in the book value per share under AS & IND-AS despite the denominator i.e. number of equity shares remaining the same under both regimes. In the numerator, all adjustments on transition from AS to IND-AS are carried through Retained earnings. Also, the 'Other Equity' component of Net Worth under IND-AS is substantially different from 'Reserves & Surplus' under AS because of inclusion of Other comprehensive income and equity component of compound financial instruments.

8.4 Liquidity Ratios: Current Ratio is found to be significantly different under the two regimes as the value of Current Assets and Current Liabilities are also significantly different. Quick Ratio is found to be significantly different due to differential treatment of Provision for Bad debts for Trade Receivables under IND-AS. Also, the amount of Current Liabilities is found to be significantly different under the two regimes. Cash ratio is found to be significantly different under AS & IND-AS owing to the difference in the value of Current Liabilities under both regimes.

8.5 Turnover Ratios: Receivables Turnover Ratio is found to be significantly different under AS & IND-AS due to difference in the value of Revenue which is recorded at fair value of consideration receivable under IND-AS. Inventory Turnover ratio is found to be significantly different under AS & IND-AS. Under IND-AS, the amount of inventories may change if inventories were purchased on deferred settlement terms and are recognized at fair value. Also, if major spare parts relating to a PPE are recognized as part of PPE instead of inventory under Ind-AS, then the value of this ratio may change. The amount of Payables turnover ratio is found to be significantly different under AS & IND-AS. This may be due to the fact that under IND-AS purchases are calculated after adjusting for financing aspect. There is a significant difference in the amount of Asset Turnover Ratio under AS & IND-AS. This is due to the significant difference in the amount of Total Assets under AS & IND-AS. Similarly, there is a significant difference in the amount of FATR because of differences in recognition & measurement of Fixed Assets.

8.6 Profitability ratios: There is a significant difference in the value of Net Profit Margin ratio due to the difference in the value of Sales (differential treatment of Excise duty under AS & IND-AS). ROA differs under AS & IND-AS because of difference in the value of Profit before Interest & Taxes because of adjustments employee benefit expenses, depreciation, amortization. Also, there is significant difference in the amount of total assets under AS & IND-AS. The value of the ratio ROCE differs under AS & IND-AS because of difference in the amount of Profit before Interest & Taxes, Other Equity and measurement of financial liabilities at amortised cost. The difference in ROE may be because in the denominator, the amount of Other Equity differs significantly as all transition adjustments are made through Retained Earnings/Surplus. The total Equity

Shareholders funds will also be different for the transition year as it will include the impact of fair valuations that flow through Other Comprehensive Income and are recorded in Other Equity.

8.7 Solvency ratios: The Debt Equity ratio for the transition year will undergo significant changes as IND-AS 32 has altered the classification of debt and equity. Compound Financial Instruments are split into equity and debt portion. Financial Liabilities are carried at amortised cost or Fair Value through P&L instead of contractual amount. Under IND-AS, equity includes equity share capital, instruments entirely equity in nature (CCP, CCD) and separate section of 'Other Equity', which comprises new component of Total income i.e. Other comprehensive income and equity component of compound financial instruments. Both numerator and denominator are recognized and measured differently under the two accounting regimes and hence this ratio might yield different values for the same year despite the underlying capital structure remaining unchanged. Other results are in line with this study. The interest coverage ratio for the 2015-16 is significantly different under AS & IND-AS. This may be because of the difference in the amount of EBIT under both the regimes. Also, the calculation of interest is different under AS & IND-AS. The debt service coverage ratio for the 2015-16 is significantly different under AS & IND-AS. This may be because of the difference in the amount of EBITDA under both the regimes. Also, the calculation of interest is different under AS & IND-AS. Total Debt to Total Assets is found to be significantly different under AS & IND-AS because of difference in the amount of Total Assets. Also, the amount of total debt will also change under both the regimes. Under long term debt, compound financial Instruments are split into pure debt and equity portion. Long term Liabilities are carried at amortised cost/FVTPL instead of contractual amount. Provisions are shown at present value to account for time value of money.

8.8 Market value ratios: P/E ratio is not showing any significant difference. This is line with the results of PAT & EPS which are also not showing any significant difference under the two regimes. There is a significant difference in the book value per share as explained above. Because of the difference in the amount of BVPS, there is a significant difference in the P/B ratio also, since the market price is the same under both the regimes. One important finding relating to P/B ratio is that, P/B ratio under AS is higher than P/B ratio under IND-AS. This implies that book values under IND-AS are close to market values as compared to AS. A significant difference is found in the value of Tobin q under AS & IND-AS. This is because of the difference in the amount of Total Debt & Total Assets under AS & IND-AS. As regards the differences in variances, significant difference has been observed in case of only one ratio i.e Debt to Total Assets. As discussed in the previous section, IND-AS has introduced significant changes in the measurement and classification of debt and recognition, measurement and valuation of assets. Hence, there is a significant difference in the variability of this ratio. IFRS have introduced many policy choices giving scope for discretion to managers to exercise their judgement and bring about smoothing/variation in accounting figures. Since,

the data under study pertains to the year of restatement, it is possible that this exercise was not carried out and hence, the distribution of ratios and accounting figures across companies is similar as that under as regards variability.

9. Conclusion

The objective of this study is to determine the impact of transition to new accounting standards i.e. IFRS on financial statements and ratio analysis in the context of India which has mandatorily adopted converged version of IFRS known as IND-AS w.e.f 2016-17. As hypothesized, the study concludes that IND-AS, have on an average, brought about significant changes in the values of key accounting items and commonly used ratios. This finding has important implication for users of financial statements particularly analysts, management, investors, credit rating agencies, researchers, accounting standard setters etc. Transition to IFRS is not merely an exercise of translating the items from one form to another, but entails a complete change in the meaning, analysis and interpretation of key financial items. Though no difference in variability of figures has been observed barring debt to total assets, it is possible that in the future years, the full effect of discretion offered by IND-AS may be reflected and changes in variability may become more prominent. Overall, the research demonstrates significant impact of IFRS transition on financial position and performance of major Indian companies and implications of this transition for financial statement analysis and decision making.

10. Limitations & Future research

Future studies in this area can be extended to include a greater number of post-transition years to capture the full impact of IFRS on variability of accounting numbers. Also, the results can be analysed by dividing the companies based on size, age, listing status, industry, audit agencies etc. Further studies could be extended to include a greater number of companies.

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Appendix 1: List of Ratios used in the study

Ratios	Formula under AS (Ratio_AS)	Formula under IND-AS (Ratio_IAS)
Current Ratio (CR)	$\frac{Current\ Inv + Inv + TR + CB - EB + STLA + OCA - CME}{STB + TP + OCL + STP}$	$\frac{Inv + TR + CCE + TD + STLA + OFA + CTA + OCA - CME}{STB + CTP + OFL + OCL + CTL + Prov + PD}$
Quick ratio (QR)	$\frac{TR + CB - EB + Marketable\ Current\ Inv}{STB + TP + OCL + STP}$	$\frac{TR + CCE + Marketable\ Current\ Inv}{STB + CTP + OFL + OCL + CTL + Prov + PD}$
Cash Ratio (CR)	$\frac{CCE + Other\ Deposits - EB}{STB + TP + OCL + STP}$	$\frac{CCE + Other\ Deposits}{STB + CTP + OFL + OCL + CTL + Prov + PD}$
Receivables Turnover ratio (RTR)	$\frac{Rev + Excise\ Duty}{TR + PBD}$	$\frac{Rev}{TR + PBD}$
Inventory Turnover ratio (ITR)	$\frac{Rev}{Inv}$	$\frac{Rev - Excise\ Duty}{Inv}$
Payables Turnover Ratio (PTR)	$\frac{Purchases}{Trade\ Payables}$	$\frac{Purchases}{Trade\ Payables}$
Asset Turnover ratio (ATR)	$\frac{Rev}{Total\ Assets}$	$\frac{Rev - Excise\ Duty}{Total\ Assets - Assets\ held\ for\ sale}$
Fixed Asset Turnover ratio (FATR)	$\frac{Rev}{Net\ Fixed\ Assets}$	$\frac{Rev - Excise\ Duty}{Net\ PPE + Net\ goodwill + Net\ OIA + Net\ BA}$
Net Profit margin (NPM)	$\frac{PAT}{Rev}$	$\frac{PAT + Pref\ Div + DDT\ on\ Pref\ Div}{Rev}$
Return on Assets (ROA)	$\frac{PBIT}{Total\ Assets}$	$\frac{PBIT}{Total\ Assets}$
Return on Capital Employed (ROCE)	$\frac{PBIT - Interest\ on\ STL}{Share\ Capital + R\&S + LTL}$	$\frac{PBIT - Interest\ on\ STB}{Equity + Other\ equity + LTB}$
Return on Equity (ROE)	$\frac{PAT - Pref\ Div - DDT\ on\ Pref\ Div}{Equity\ Share\ Capital + R\&S - FA}$	$\frac{PAT}{Equity + Other\ Equity - FA}$
Net Worth (NW)	$Share\ Capital + R\&S - FA$	$Equity + Other\ Equity - FA$
Debt-Equity (D/E)	$\frac{LTL}{Equity\ Share\ Capital + R\&S - FA}$	$\frac{LTB - RPS + CCD}{Equity\ Share\ Capital + RPS + CCPS + Other\ Equity - FA}$
Interest Coverage Ratio (ICR)	$\frac{PBEET + Finance\ Costs}{Interest\ Expense}$	$\frac{PBET + Finance\ Costs \pm FVC}{ICFL - Pref\ Div - DDT\ on\ Pref\ Div}$
Debt Service Coverage Ratio (DSCR)	$\frac{PBEET + Finance\ Costs}{STL + CMLTD + Interest\ Expense}$	$\frac{PBET + Finance\ Cost \pm FVC}{STB + CMLTD - CMRPS + ICFL - Pref\ Div - DDT\ on\ Pref\ Div}$
Total Debt-Assets (DTA)	$\frac{LTL + STL}{Total\ Assets}$	$\frac{LTB - RPS + CCD + STB}{Total\ Assets}$
Book value per share (BVPS)	$\frac{Net\ Worth - PSC}{Number\ of\ equity\ shares\ outstanding}$	$\frac{Net\ Worth}{Number\ of\ equity\ shares\ outstanding}$
Price to Earnings ratio (P/E)	$\frac{Market\ Price}{Earnings\ per\ share}$	$\frac{Market\ Price}{Earnings\ per\ share}$
Price to book ratio (P/B)	$\frac{Market\ Price}{Book\ value\ per\ share}$	$\frac{Market\ Price}{Book\ value\ per\ share}$
Tobin Q	$\frac{MV\ of\ equity + Book\ value\ of\ LTL}{Total\ Assets}$	$\frac{MV\ of\ equity + Book\ value\ of\ LTB}{Total\ Assets}$

Appendix 2: List of Abbreviations used in the Study

Abbreviation	Full Form	Abbreviation	Full Form
Current Inv	Current Investments	Pref Div	Preference Dividend
Inv	Inventory	DDT on Pref Div	Dividend Distribution tax on preference dividend
TR	Trade Receivables	R&S	Reserves & Surplus
CB	Cash & bank balances	FA	Fictitious Assets
EB	Earmarked balances	FVC	Net gain/loss on fair value changes (included in other expenses in P&L)
CCE	Cash & Cash equivalents	ICFL	Interest cost on financial liabilities (Included in Finance Cost)

TD	Term Deposits of upto 12 months maturity	CMLTD	Current maturities of long-term debt (Included in Other Current liabilities)
STLA	Short term loans and advances	CMRPS	Current maturity of Redeemable Preference Share (Included in Other Current liabilities)
OFA	Other Financial Assets	LTB	Long Term Borrowings
CTA	Current tax Assets	STB	Short Term Borrowings
OCA	Other Current Assets	RPS	Redeemable Preference Shares
CME	Current Miscellaneous Expenditure	CCPS	Compulsorily Convertible Preference Shares (Included in 'Instruments entirely in nature of equity)
STL	Short Term Liabilities	CCD	Compulsorily Convertible Debentures (Included in 'Instruments entirely in nature of equity)
CTP	Current trade Payables	OIA	Other Intangible Assets
OFL	Other Financial Liabilities	BA	Biological Assets
OCL	Other Current Liabilities	PAT	Profit After Tax/Profit for the year
CTL	Current tax liability	PSC	Preference Share Capital
PD	Proposed Dividend	MV	Market value
PBD	Provision for Bad Debts for the year	PBEET	Profit before exceptional and extraordinary items and tax
PBIT	Profit before Interest & taxes	PBET	Profit before exceptional items and tax
Rev	Revenue from Operations	Prov	Provisions (Current)
LTL	Long term liabilities		