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Impact of international financial reporting standards on monetary ratios

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Abstract
Harmonization of accounting standards has become a highly demanded issue of discussion and debate among accounting professionals around the globe. Accounting Standards are the authoritative statements of best accounting practices issued by recognized expert accountancy bodies relating to various aspects of measurements, treatments and disclosures of accounting transactions and events, as related to the codification of GAAP. The ICAI's roadmap to convergence with IFRS would not only save companies undertaking significant reconciliation procedures, which otherwise results in additional costs and the risk of being exposed to errors in reporting under the different accounting frameworks, but also significantly enhances the quality of financial reporting. The convergence to IFRS will greatly enhance the ability of Indian entities to raise and attract foreign capital at low cost. For this study all ten companies which have implemented IFRS since 2011 were considered. This study covers the period of four years from 2011-12 to 2015-16. The transition to the IFRS system impacts on the values of key financial ratios influences the assessment of the financial situations of firms, albeit it could not be proved that these differences are statistically significant.

Keywords: IFRS, IGAAP, financial ratios, ICAI, roadmap to convergence

Introduction
Currently, accounting standards around the world seek to adopt International Financial Reporting Standards (IFRS) to reduce regulatory gaps and enhance the credibility and quality of the financial statements of business entities across the world. By adopting IFRS, financial reporting quality is expected to become even better, more relevant, and more reliable. Ultimately, IFRS is expected to reduce moral hazard in the financial statements to conduct earnings management through accrual policy. It has been said that accounting is the "language of business," and though not all users need to create the language, all users should be able to "read" the language. For decades, however, it has been difficult to read and understand company performance when financial information originated from different global locations. Many of these companies effectively prepared financial statements under different accounting rules and regulations. As a result, the different rules created different values or measures for the same economic event. The accounting profession is on the precipice of one of the biggest changes to face, since 2000s. In the very near future, there is a strong possibility that United States generally accepted accounting principles (GAAP), as it is known today, will cease to exist. In its place will be a global standard, encompassed by the International Financial Reporting Standards (IFRS). This has also addressed the impact on IGAAP for the adoption of IFRS. In this context, an attempt is made to assess the effects of convergence to IFRS on Financial Health and Ratios and the results are summarized in this chapter.

Statement of the Problem
The necessity of convergence of Indian GAAP with IFRS to enjoy the benefits of a global economy has already gained wide acceptability. Convergence no longer is an option or an alternative but a requirement. The ICAI's roadmap to convergence with IFRS would not only save companies undertaking significant reconciliation procedures, which otherwise results in additional costs and the risk of being exposed to errors in reporting under the different accounting frameworks, but also significantly enhances the quality of financial reporting. The convergence to IFRS will greatly enhance the ability of Indian entities to raise and

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attract foreign capital at low cost. It will also mean escape from multiple reports for Indian multi-national companies that have to prepare their financial statements under multiple GAAPs. An example is accounting for amalgamations and mergers. Indian GAAP is very liberal. Another area of major difference is preparation of consolidated financial statements. Convergence would be a challenge in view of the conflicting legal and regulatory requirements related to financial statements, the technical preparedness of industry and accounting professionals and economic environment prevailing in the country. Based on this, the researcher has structured the following research questions:

▪ Will there be any changes in the company's financial ratios using IFRS and IGAAP?

Methodology
Using both primary and secondary data, the study has been made. The secondary data are collected from company's website and their respective annual reports and CMIE Prowess Database. For this study all ten companies which have implemented IFRS since 2011 were considered. This study covers the period of five years from 2011-12 to 2015-16.. Tools Used are Gray's Comparability Index, Levene's F-test, Independent Sample t-test and Regression Analysis

Review of Literature
Katerina Struharova, Karel steker, Milana Otrusinova (2011)[1], in their study, "Shift to IFRS – what would this mean for Czech companies", stated that usage of IFRS financial statements in the Czech Republic is very rare. This is due to the fact that only listed entities are required to prepare its consolidated financial statements in line with IFRS. If other entities want to prepare their financial statements under IFRS they have to prepare them in addition to financial statements under CZ GAAP which are mandatory for statutory purposes. Also the opportunities that IFRS can bring to Czech companies are not seen by them. In this paper it is discussed that what the shift to IFRS mean for Czech companies and what is the impact of possible adoption or convergence plans on Czech companies.

Blanchette, Racicot & Girard (2011)[2], in their analysis " The effects of IFRS in Financial Ratio: early evidence in Canada" in their research examined the impact of the adoption of IFRS on liquidity, leverage, coverage and profitability ratios in a sample of companies seated in Canada. Survey results showed differences in means, medians and volatility in most financial ratios of companies, but these differences were not statistically significant in most of the cases. Also, by specifically analyzing their results by groups of companies who adopted IFRS at different dates, they found no significant variation on their results.

George Iatridis (2010)[3], in "IFRS Adoption and Financial Statement Effects: The UK Case" investigated the impact of the implementation of the International Financial Reporting Standards (IFRSs) on key financial measures of UK firms and the volatility effects of IFRS adoption. The findings show that IFRS implementation had favorably affected the financial performance (e.g. profitability and growth potential) of firms. The study also demonstrated that following the fair value orientation of IFRSs the transition to IFRSs appeared to introduce volatility in income statement figures.

Amanda Paul and Eddy Burks(2009)[4], in their article, "Preparing for international financial reporting standards" stressed that the accounting profession is on the precipice of one of the biggest changes to face it since the 1930s. In the very near future, there is a strong possibility that United States generally accepted accounting principles (GAAP), as it is known today, will cease to exist. In its place will be a global standard encompassed by the International Financial Reporting Standards (IFRS). The study revealed the history of IFRS about the timeline of convergence, along with advantages and disadvantages. It also addressed the future impact on accounting education.

Elaine Henry et al (2009)[5], in their study, "The European-U.S. —GAAP Gap: IFRS to U.S. GAAP Form 20-F Reconciliations" evaluated the difference between financial results under U.S. GAAP compared to IFRS. Their results showed that convergence between U.S. GAAP and IFRS was occurring. Using 2004 to 2006 reconciliation disclosures, the authors found that the calculated difference between shareholders' equity under U.S. GAAP and under IFRS declined from 2004 to 2006. In addition, the difference between U.S. GAAP and IFRS reported net income during this period also declined but remained significantly different. Pensions and goodwill appeared to be the dominant reconciliation items.

Ole-Kristian Hope, Yiqiang Justin Jin, Tony Kang (2006)[6], in "Empirical Evidence on Jurisdictions that Adopt IFRS", found that countries with weaker investor protection mechanisms are more likely to adopt IFRS. Their evidence also showed that jurisdictions that are perceived to provide better access to their domestic capital markets are more likely to adopt IFRS. Taken together, these results are consistent with the view that IFRS represent a vehicle through which countries can improve investor protection and make their capital markets more accessible to foreign investors.

Comparison of Key Financial Ratios under IGAAP and IFRS
The IFRS - the accounting standard used in more than 110 countries - has some key differences from the IGAAP. At the conceptual level, IFRS is considered more of a "principles based" accounting standard in contrast to IGAAP which is considered more "rules based." By being more "principles based", IFRS, arguably, represents and captures the economics of a transaction better than IGAAP.

The introduction of IFRS has made the companies to prepare the financial statements based on local GAAP and IFRS which result in significant difference on inventories, fixed assets, long term liabilities, shareholders' equity, etc., In order to test the significant differences on key financial ratios between IGAAP and IFRS, based on profitability ratios, liquidity ratios, ratios for corporate valuations, income statement ratios, balance sheet ratios and activity ratios through the six hypotheses were formulated and tested using Gray's Comparability/ Conservatism Index, is used which helps in identifying which standard is conservative than the other. Independent Sample t- test, is used to test, how two separate sets of independent and identically distributed samples are obtained, one from each of the two populations being compared with the other and Levene's F-test, helps in finding out, how the two population variances shown in Table 1.

Table 1: Comparison of Key Financial Ratios under IGAAP and IFRS

Ratios	Gray's Comparability Index	Independent Sample t- Test	p value	Levene's Test	p value
Profitability ratios					
GP	1.121	1.260	0.043	110.51	0.000
NP	0.934	1.296	0.049	3.287	0.107
ROCE	1.198	0.499	0.031	9.564	0.009
ROE	1.107	-1.074	0.311	49.451	0.041
Liquidity ratios					
CR	1.474	2.386	0.044	11.02	0.054
NCFO	1.000	-1.45	0.041	15.83	0.029
Ratios for corporate valuation					
EPS	0.864	-1.239	0.025	13.70	0.006
P/E	1.042	1.312	0.026	16.98	0.026
Market To Book	0.937	1.084	0.310	0.024	0.881
Income statement ratios					
EBITDA	1.642	1.463	0.039	7.14	0.028
COS	1.468	2.018	0.001	69.265	0.006
Balance sheet ratios					
Reserves	2.412	2.018	0.001	8.65	0.046
Inventories	0.866	2.291	0.001	31.24	0.000
Activity ratios					
OP.EXP	0.727	2.554	0.034	12.057	0.000
Fixed assets	0.660	2.980	0.026	0.885	0.005
Total assets	0.788	1.254	0.001	1.978	0.043

Source: Computed Data

H_{01}: There is no significant difference between IFRS and IGAAP on profitability ratios.
In line with the conservatism index when the values are below +1.0 indicates that IFRS is more conservative than the IGAAP while an index value above +1.0 depicts the opposite, whereas Net Profit is conservative as per the norms and the others are not. The independent sample t-test for the statistical significance of the difference of means provided the following t values and P-values: GP (t= 1.260, p= 0.043), NP (t= 1.296, p= 0.049), ROCE (t= 0.499 p= 0.031), and ROE (t= 0.594, p= 0.008). Since the calculated t values of GP, NP and ROCE are less than the critical p-values of 0.05, the null hypothesis is rejected. The mean value of profitability ratios except ROE does differ significantly after IFRS adoption. The second test is aimed at testing equality of variances using Levene's F test and it provides the following F and P-values: GP (F= 110.51, p= 0.000), NP (F= 3.287, p= 0.107), ROCE (F= 9.564, p= 0.009) and ROE (F= 49.451, p= 0.041). Again since the calculated p is less than the critical p value at 0.05 significance level the null hypothesis is rejected except NP. The data does support significant change in the variability of profitability ratios upon the adoption of IFRS except NP. Therefore there is significant difference between IFRS and IGAAP on profitability ratios except NP.

H_{02}: There is no significant difference between IFRS and IGAAP on liquidity ratios.
For the liquidity ratios, the index when the values are below +1.0 indicates that IFRS is more conservative than the IGAAP while an index value above +1.0 depicts the opposite, whereas all the ratios are conservative as per the norms. The t-test yielded the following t and p-values: current ratio (t= 2.386, p= 0.044) and NCFO (t= -1.45, p= 0.041). Since the calculated t value is less than the critical p-values of 0.05, the null hypothesis is rejected which reveals that the mean differences between liquidity ratios under IFRS and IGAAP are significantly different. The second test is aimed at testing equality of variances using Levene's F

test and it provides the following F and P-values: current ratio (F= 11.02, p= 0.054) and NCFO (t= 15.83, p= 0.029) Again since the calculated p is less than the critical p value at 0.05 significance level the null hypothesis is rejected except CR. The data does support significant change in the variability of liquidity ratios upon the adoption of IFRS except CR. This led to the conclusion that there is significant difference between IFRS and IGAAP on liquidity ratios except CR.

H_{03}: There is no significant difference between IFRS and IGAAP on ratio for corporate valuations.
For the third hypothesis, in line with the index when the values are below +1.0 indicates that IFRS is more conservative than the IGAAP while an index values above +1.0 depicts the opposite, whereas Market to Book Value is conservative as per the norms and the others are not and the independent sample t-test data to test for the equality of mean (central tendency) and the result is as follows: Earnings per Share ratio (t= -1.239, p= 0.025), Price Earnings ratio has (t= 1.312, p= 0.026) and Market to Book Value (t= 1.084, p= 0.310). Since the calculated t value is less than the critical p-values of 0.05, the null hypothesis is rejected except Market to Book Value. The second test is aimed at testing equality of variances using Levene's F test and it provides the following F and P-values: Earnings per Share ratio (F= 13.70, p= 0.006), Price Earnings ratio has (F= 16.98, p= 0.026) and Market to Book Value (F= 0.024, p= 0.881). Again since the calculated p is less than the critical p value at 0.05 significance level the null hypothesis is rejected except MBV. The data does support significant change in the variability of ratio for corporate valuation upon the adoption of IFRS except MBV. The conclusion is that, IFRS adoption does significantly affect leverage ratios of IFRS on IGAAP on ratio for corporate valuation except MBV.

H04: There is no significant difference between IFRS and IGAAP on Income Statement ratio.

For the Income Statement ratio with the index when values are below +1.0 indicates that IFRS is more conservative than the IGAAP while an index values above +1.0 depicts the opposite, whereas all the ratios are conservative as per the norms and the independent sample t-test data to test for the equality of mean (central tendency) and the result is as follows: EBITDA (t= 1.463, p= 0.039) an Cost of Sales to Total Operating Expenses (t= 2.018, p= 0.001). Since the calculated t value is less than the critical p-values of 0.05, the null hypothesis is rejected. The second test is aimed at testing equality of variances using Levene's F test and it provides the following F and P-values: EBITDA (F= 7.14, p= 0.028) and Cost of Sales to Total Operating Expenses (F= 69.265, p= 0.006). The null hypothesis is rejected. Again since the calculated p is less than the critical p value at 0.05 significance level the null hypothesis is rejected. The data does support significant change in the variability of income statement ratios upon the adoption of IFRS. The conclusion is that, there is significant difference between IFRS and IGAAP on Income Statement ratios.

H05: There is no significant difference between IFRS and IGAAP on Balance Sheet ratios.

For the fifth hypothesis, in line with the index when values are below +1.0 indicates that IFRS is more conservative than the IGAAP while an index values above +1.0 depicts the opposite, thus Inventories to Share Capital are conservative as per the norms and the others are not and independent sample t-test data to test for the equality of mean (central tendency) and the result is as follows: Reserves to Total Capital ratio (t= 2.291, p= 0.001) and Inventories to Share Capital ratio has (t= 2.524, p= 0.036). Since the calculated t value is less than the critical p-values of 0.05, the null hypothesis is rejected. The second test is aimed at testing equality of variances using Levene's F test and it provides the following F and P-values: Reserves to Total Capital ratio (F= 8.65, p= 0.046) and Inventories to Share Capital ratio (F= 31.243, p= 0.000). The null hypothesis is rejected. Again since the calculated p is less than the critical p value at 0.05 significance level the null hypothesis is rejected. The data does support significant change in the variability of balance sheet ratios upon the adoption of IFRS. The conclusion is that, there is significant difference between IFRS and IGAAP on balance sheet ratios.

H06: There is no significant difference between IFRS and IGAAP on activity ratios.

For the sixth hypothesis, with the index when the values are below +1.0 indicates that IFRS is more conservative than the IGAAP while an index values above +1.0 depicts the opposite, thus Operating Expenses, Fixed Assets and Total Assets are conservative as per the norms and the others are not. The independent sample t-test data to test for the equality of mean (central tendency) and the result is as follows: Operating Expenses ratio (t= 2.554, p= 0.036), Fixed Assets ratio has (t= 2.554, p= 0.034) and Total Assets Ratio (t= 1.254, p= 0.001). Since the calculated t value is more than the critical p-values of 0.05, the null hypothesis is rejected. The second test is aimed at testing equality of variances using Levene's F test and it provides the following F and P-values: Operating Expenses ratio (F= 12.057, p= 0.000), Fixed Assets ratio has (F= 0.885, p= 0.005) and Total Assets Ratio (F= 1.978, p= 0.043). The null hypothesis is rejected. Again since the calculated p is less than the critical p value at 0.05 significance level the null hypothesis is rejected. The conclusion is that, there is significant difference between IFRS and IGAAP on activity ratios.

Impact of IFRS on IGAAP

In order to analyse the relationship between IFRS and IGAAP ratios Simple Linear Regression was used by adopting Ordinary Least Square (OLS) method. The aim of the Ordinary Least Square Regression was to study the extent to which IFRS ratios can be explained by the corresponding IGAAP ratios and to examine the degree of correlation between the two sets of ratios. Financial ratios should be identical if there is no difference between IFRS and IGAAP. But the adoption of IFRS alters accounting figures then it will also alter financial ratios. Running one regression per ratio, the model is:

$$IFRS_{it} = \alpha + \beta IGAAP_{it} + \varepsilon$$

Where:
$IFRS_{it}$ = IFRS ratio for company i at time t
$IGAAP_{it}$ = IGAAP ratio for company i at time t
α = intercept
β = coefficient of the variable IGAAP
i = refers to 10 companies sampled
t = year end date
ε = error term

The regression will be run on one ratio at a time basis. The model stated as equation (1) has each IFRS ratio as a dependent variable and the IGAAP ratio as the independent variable. The essence of using simple linear regression was to examine the impact of IFRS adoption on each IGAAP ratio. The R^2 is expected to be equal to 100 per cent if there is no difference between the two sets of ratios and the coefficient of IGAAP is equal to +1.0.

Therefore in order to understand the impact of IFRS ratios with IGAAP ratios of select companies, the following null hypothesis is formulated and tested.

H₀₇ – There is no significant impact of IFRS on IGAAP ratios

The results are shown in Table 2

Table 2: Regression of IFRS Ratios with IGAAP Ratios of select Companies

RATIOS	R^2	β co-efficient	F	SIG	T	SIG
Profitability Ratios						
Gross profit	0.277	0.619	3.067	0.118	1.751	0.118
Net profit	0.552	0.470	9.842	0.014	3.127	0.014
ROCE	0.414	0.586	5.659	0.045	2.379	0.045
ROE	0.799	0.928	31.805	0.000	5.642	0.000
Liquidity Ratios						
CR	0.571	0.719	10.631	0.012	3.261	0.012
NCFO	0.487	0.830	7.594	0.025	2.756	0.025
Ratios For Corporate Valuation						
EPS	0.789	0.556	29.861	0.001	5.464	0.001
P/E	0.695	0.905	18.209	0.003	4.267	0.003
Market To Book	0.766	0.298	26.223	0.001	5.121	0.001
Income Statement Ratios						
EBITDA	0.634	0.821	13.647	0.006	3.694	0.006
Cos to total OP. EXP	0.104	0.868	0.932	0.363	0.965	0.363
Balance Sheet Ratios						
Reserves To Tot. Cap	0.145	0.889	0.034	0.953	0.061	0.953
INV TO CAP	0.579	0.976	11.513	0.009	3.393	0.009
Activity Ratios						
OP.EXP	0.553	0.234	9.904	0.014	3.147	0.014
FIXEDASSETS	0.519	-0.066	8.636	0.019	2.939	0.019
TOTAL ASSETS	0.657	-0.059	15.342	0.004	3.917	0.004

Source: Computed Data

The results of the regression analysis of IGAAP and IFRS ratios for select companies indicate that except GP, CoS and RTC, all the other ratios have a strong relationship with IFRS. The R^2 were GP (0.118), CoS (0.979), TD (0.363) and RTC ratio (0.953). The remaining ratios namely: FA and TA had a weak but significant correlation with R^2 ranging from -0.59% to -0.66%. These results reveal that the financial ratios under IFRS and IGAAP are strongly correlated. The analysis also confirms the increased volatility of financial ratios under IFRS. Thus, the null hypothesis is rejected and found that there is a significant impact of IFRS on IGAAP ratios for select companies.

Conclusion

The transition to the IFRS system impacts on the values of key financial ratios influences the assessment of the financial situations of firms, albeit it could not be proved that these differences are statistically significant. At the examined set of firms, the changes often resulted in the impairment of the values of most of the indicators and the deterioration of the assessment of the firms and their financial situations. Based on the analysis the suggestion made is that Investors normally look into Return on Equity, Return on Capital Employed, Earnings per share, Price-Earnings ratio and Market to Book Value Ratios and these ratios have positive significant difference upon adoption of IFRS. Hence, it is a good sign from investor's perspective. Therefore, the corporate have to educate their stakeholders upon the positive and healthy financial performance revealed upon the adoption of IFRS through Annual Reports, Newsletters, and Websites of the company.

References

1. Katerina Struhařová. Shift to IFRS – What would this mean for Czech. International Journal of Systems Applications, Engineering & Development. 2011; 5(2):170-177
2. Blanchette M, Racicot FE, Girard JY. The effects of IFRS in Financial Ratio: early evidence in Canada. Certified General Accountants Association of Canada, 2011.
3. Iatridis G. IFRS Adoption and Financial Statement Effects: The UK Case. International Research Journal of Finance and Economics. 2010; 38:165-172.
4. Amanda Paul. Preparing for International Financial Reporting Standards. Journal of Finance and Accountancy. 2009, 1-8.
5. Elaine Henry, Stephen Lin, Ya-wen Yang. The European-U.S. ―GAAP Gap: IFRS to U.S. GAAP Form 20-F Reconciliations. Accounting Horizons. 2009; 23(2):121-150
6. Hope, Ole-Kristian Jin, Justin, Kang Tony. Empirical Evidence on Jurisdiction that Adopt IFRS. Journal of International Accounting Research. 2006; 5(2):1-20.