

# EXPLORING THE EFFECT OF CONVERGENCE FROM IND-GAAP TO IND-AS ON THE FINANCIAL STATEMENTS OF INDIAN INDUSTRIES

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**Abstract** *The Ministry of Corporate Affairs of India made it mandatory to prepare the financial statements by following International Financial Reporting Standards converged accounting standards, that is, Ind AS, for Indian listed companies as well as non-listed companies having shareholder's funds (net worth) equal to or above INR 500 Cr for the financial year commencing on 1<sup>st</sup> April, 2016. The present research provides an insight into the impact of IND-AS adoption on the financial statements of Indian listed companies across industries. The study attempts to find the statistically significant differences between companies' Indian Generally Accepted Accounting Principles (GAAP)-based and IND-AS-based financial statements in terms of shareholder's funds. The value of shareholders' funds is obtained from the standalone financial statements constituted according to the two sets of accounting standards for the year in which the company adopted Ind AS. We attempted the secondary quantitative research in two steps: first, we tried to identify whether there was a percentage change in shareholder funds from GAAP to IND-AS. Secondly, we identify the percentage change is significant or not. The result of the research revealed a percentage change in the majority of the companies' shareholder's funds, that is, 87% of the sample size (1,288 companies). Further, it was also observed that the percentage change in shareholder's fund was not significant.*

**Keywords:** *Indian Accounting Standards (IND-AS), Generally Accepted Accounting Principles (GAAP), IFRS, Shareholder's Funds, Net Worth, Financial Statements*

**JEL Classifications:** *G33, M40, M41*

## INTRODUCTION

The history of accounting is relatively old and accounting standards are also under discussion due to assorted changes over time (Walker, 2005). Accounting standards play an important role in establishing a sound financial reporting system in any country (Dhankar, Raj & Gupta, 2014). It lays down sound principles for the recognition, measurement, presentation and disclosure of information in the financial statements, which significantly improve the quality of the financial statements (Sardar, Shinde & Singh, 2018).

In 1973, professional bodies from Australia, Canada, France, Germany, Japan, Mexico, the United Kingdom and the United States jointly formed the International Accounting

Standard Committee (IASC). The standards that are issued by IASC were known as International Accounting Standards (IAS). In the year 2000, IASC agreed to structure itself into a full-time International Accounting Standard Board (IASB), which would be overseen by independent Trustees (IFRS, 2021). In April 2001, IASB formulated the IAS known as International Financial Reporting Standards (IFRS). IFRS are the rules, guidelines and standards that companies and organisations across the world will follow uniformly for the preparation and presentation of their financial statements (D'Souza & Dolphy, 2007). As every country has its own accounting standards, the focus of IFRS is on achieving full or partial convergence, probably with allowance for minimal exceptional cases pertinent to the social and economic settings of a respective country. Countries that have used

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the convergence path include China, Denmark, Singapore, Australia, Canada, South Africa and India as well. There were 42 accounting standards in place as of 12<sup>th</sup> November, 2021.

To be at par with IAS, the Government of India also been taking regular initiatives. The first set of accounting standards in India was introduced in 1979, beginning with Indian Generally Accepted Accounting Principles (IGAAP) 1- Disclosure of Accounting Policies (Tawiah, 2020). Since then, IGAAP has been an accounting standard in India that is used to prepare and present financial statements. In 2007, India indicated its intention to change to IFRS through a concept paper (Tawiah, 2020) to revise the existing accounting and reporting standards (Singh & Srivastava, 2019) such as IGAAP. In India, the requirement for local rules convergence with IFRS is associated with the opening of its economy to the outside world to attain strong economic growth, technological competencies, increasing flow in capital markets, rising foreign exchange reserves, cross border mergers & acquisitions, and global recognition. That's why Indian Accounting Standards must be globally accepted (Bhattacharya, 2012).

The Council of the Institute of Chartered Accountants of India (ICAI) opined in May 2006 for the adoption of IFRS, which was considered and supported by the IASB. The IFRS task force was set up to provide a road map for convergence, and it decided to converge with IFRS from the accounting period commencing on or after 1<sup>st</sup> April, 2011. The result of extensive consultation with all the stakeholders in accordance with the G-20 commitment is the convergence of 35 IAS with IFRS. This conversion is much more than a technical accounting issue (Muniraju & Ganesh, 2015). It is a monumental step in the accounting history of India.

The Indian Accounting Standards were initially set to be obligatory for listed, public interest entities and large organisations with effect from 1<sup>st</sup> April, 2011 (Rao, Bedia & Shrivastava, 2020). The move was a failure as issues related to taxation, company law and others were not addressed properly, and due to this, implementation were postponed. In February 2015, the Ministry of Corporate Affairs (MCA), in consultation with the National Advisory Committee on Accounting Standards, notified a set of rules called the Companies Rules 2015 and introduced the Indian Accounting Standard (IND-AS). In this, the revised timeline for adoption of IND-AS, which largely converges but is not identical to IFRS, has been notified. Finally, the adoption of the revised IND-AS became mandatory for the specified companies as of the financial year commencing on 1<sup>st</sup> April, 2016 (D'souza & Dolphy, 2007).

The current study offers valuable insights into how the deployment of IND-AS has affected listed companies in

India throughout various sectors. The study attempted to find the statistically significant differences between companies' IGAAP-based and IND-AS-based financial statements in terms of shareholder's funds (net worth).

## REVIEW OF LITERATURE

This section presents the previous research in the field of accounting standards in the following sequence: an overview of accounting standards, parameters used in assessing the impact of new accounting standards, studies conducted across the world, followed by highlighting the research done in India.

Numerous academics, researchers, and practitioners made an effort to determine the degree of conformity between domestic accounting practices and the adoption of global standards in the accounting field. A key reason in the movement towards convergence has been the interest of the industry so that businesses can raise funds from global markets at lower costs and simultaneously create confidence among global investors that their financial statements (local) comply with globally accepted accounting standards (Umamaheswari, Nalini & Suganthi, 2018).

Various studies have been conducted globally to analyse the impact of IFRS adoption on the financial statements of companies. Different authors have adopted different parameters to analyse this impact. These parameters can be broadly bifurcated into different categories, like whether this adoption has improved the quality of reporting, improved comparability among the financial statements, reduced the cost of capital, changed the earning numbers of the firm, improved transparency of the financial statement, improved cross country investment, etc. (De George et al., 2016; Zaidi & Paz, 2015).

Soderstrom and Sun (2007) analysed the impact of IFRS adoption on the Accounting Quality of European countries by reviewing the literature of prior studies and concluded that voluntary adoption does improve the quality of accounting. (Barth et al., 2008) also conducted a study to analyse whether IFRS adoption has improved the quality of financial statements by taking three parameters, namely timely loss recognition, earning management, and value relevance across 21 countries. The result of this study concluded that firms that have adopted IFRS have improved the quality of financial statements compared to non-adopting firms. (Acaranupong, 2021) also examined the impact of IFRS adoption by using the value relevance model in five ASEAN nations. The result concluded that Indonesia, Malaysia, the Philippines and Thailand's earnings numbers were valued relevant after IFRS adoption, while only Indonesia, Singapore, and Thailand's book value numbers were

valued relevantly after IFRS adoption. Daske et al. (2013) investigated the impact that IFRS/IAS had on firms around the world concerning the cost of capital and liquidation. The author divided these companies into two categories, that is, “serious adopters” and “label adopters”. Accordingly, it was observed that liquidity was increased and the cost of capital decreased for the “serious adopters” but the same was not observed in the case of the “Label adopters”. Ormrod (2008) identified the impact of IFRS adoption on the earnings and equity of UK-listed firms. The authors observed a change in earnings with a 33.89% increase in the value of profit after tax and found it significant at a p-value of 0.10. Alsheikh (2021) examines the relationship between the mandatory adoption of IFRS and the disclosures of corporate risk among nonfinancial firms in Saudi Arabia. Based on an analysis done of 320 companies, the author concluded that there is a positive relationship between the mandatory adoption of IFRS and corporate risk disclosures.

The researchers are quite limited in the context of the Indian scenario. Kamath and Desai (2014) analysed the impact of IFRS adoption on key accounting measures by applying a paired *t*-test to the ratios of eight Indian companies. The researcher has observed no significant impact on financial risk measures which was measured by as measured by quick ratio, return on investment and debt equity ratio, and debt covenants -EBITDA, interest coverage, and debt-capital ratio. However, a significant change was observed in investment and operational activities as measured by investment in fixed assets, cash flow from investment activity, return on assets and fixed asset turnover ratio, sales growth and operating cash flow respectively.

Based on secondary research (Prashanta Athma, 2013) examined how IFRS implementation affected companies’ financial statements. They studied phase-wise and sector-wise implementation of IFRS in India and concluded that with the help of IFRS, India will be able to adopt common IAS, saving MNCs and publicly traded companies the expense of maintaining dual accounting and reporting systems.

The variations between financial ratios used in IGAAP-based and IFRS-based financial statements of corporations are explained by Achalpathi and Bhanusireesha (2015). The sample size was 10 Indian listed companies that voluntarily adopted IFRS reporting. The study showed that IFRS adoption has led to a statistically significant increase in liquidity, profitability and valuation ratios, but no significant impact was observed on the stability ratio.

Kalra and Vardia (2016) analysed the activity ratios of six Indian companies that have adopted IFRS. These ratios included asset turnover ratio, fixed asset turnover ratio,

return on assets, net profit margin, receivable turnover ratio and return on equity. These findings led to the conclusion that IFRS adoption does not have a significant effect on the activity-based ratio of Indian firms. Further, it indicates that most activity-based ratios are negatively affected by the transition to IFRS.

Das and Saha (2017) conducted a comparative analysis of IFRS and IGAAP for Information and Technology (IT) companies and documented the basic differences between the two standards. For analysis, researcher used five voluntarily IFRS-implemented IT companies in India. The analysis revealed an absolute difference between I-GAAP and Ind-AS but no financial indicators have a statistically significant difference except for liquidity position. The study found that the implementation of IFRS can increase market value in terms of foreign investors and foreign acquisitions.

Institute of Chartered Accountants of India (ICAI, 2018) studied the impact of IND-AS on 170 listed companies in India across 15 industries to identify the transition impact on key financials. The research finds that the overall revenue of companies decreases by 1.87%, with 34 companies experiencing positive change and 120 companies experiencing negative change. Profit after tax also decreases by 0.93%, with 79 companies having positive and 91 companies having negative change. However, total equity increased by 4.10%, with 119 companies experiencing positive changes and 51 companies experiencing negative changes.

Thomas and Mathew (2019) identified the impact of Ind AS adoption on the liquidity ratio, leverage ratio and profitability ratios across eight companies. The study concluded that none of the liquidity ratios, such as, current ratio, quick ratio, cash ratio and profitability ratio, that is, net profit ratio, return on investment, return on equity and return on assets are significant. In contrast to leverage ratios, debt-equity ratio was significant.

Das and Mohapatra (2020) identified the impact of Ind AS adoption using two approaches across 54 companies in eight different industries. One is a differential approach using the percentage change method, and the second dimensional approach where the study was conducted on 38 balance sheet items, 12 profit and loss statement items and 12 financial ratios to analyse how many of them have positive, negative, or no impact at all due to adoption of Ind AS. The result revealed a 3.623% increase in total equity; whereas total liabilities decreased by 4.283%, total assets were decreased by 1.486%, and net profit decreased by 1.945%.

Rao et al. (2020) examined the effect of IFRS and IFRS converged Ind AS on three aspects of financial statements: financial figures, ratios, and book value and market value

of ten listed Indian companies. The findings indicated an increase in liquidity and profitability and a decrease in liabilities and leverage. The researcher did not find any significant difference in the balance sheet or profit and loss statement between GAAP, IFRS and Ind AS except for property plant and equipment, current liability and total outstanding liabilities. Concerning ratios, a researcher found none of the ratios to be significant apart from return on equity, return on capital employed and other liquidity ratios. Concerning the difference between market value and book value, the difference between them was found to be significant under GAAP but not under IFRS or Ind AS.

Sharma, Kalra and Soral tried to examine the impact of Ind AS on BSE listed 45 companies. For the same, they applied the *t*-test on secondary data and the Chi-squared test on primary data. The author found that there was no statistically significant difference in the accounting numbers of the financial statements after the implementation of Ind AS. Primary research also revealed that Indian companies should provide more disclosure in their financial statements so that the informational content of accounting numbers can be increased.

It can be observed that limited research has been conducted using large data sets, for instance, covering a large number of industries or companies in India. Research found that the maximum company size in India was limited to 323. Considering this as a research gap, we tried to cover the majority of the industries, including 1288 companies across 63 industries.

## METHODOLOGY

The objective of the present study is to identify the impact of IND-AS adoption on financial statements across industries in India. The study tries to identify the statistically significant differences between companies' IGAAP-based and IND-AS-based financial statements in terms of shareholder's funds, prepared under IGAAP vis-à-vis Ind AS under the same year. We attempt this in two steps. First, we try to identify the percentage change in shareholder's funds from GAAP to IND-AS. In the second step, we identify whether this percentage change (if any) is significant enough or not. Hence, the following null hypotheses have been formulated for analysis:

Ho1: The convergence from IGAAP to IND AS does not affect the percentage changes in the shareholder's funds of Indian Industries.

Ho2: The convergence from GAAP to IND AS doesn't significantly affect the shareholders' funds of industries in India.

## Source of Data

The data is extracted from the Ace Knowledge Portal and annual reports of companies. Ace Knowledge Portal is an online database on companies, industries, economies and live markets. The portal also provides historical information on the company as well as industries, which can be used for projections, research and analysis. The database covers more than 30,000 listed and private companies across the sector.

## Determination of the Sample Size

The MCA notified a phase-wise convergence of IND-AS from current accounting practices based on their shareholder's funds (net worth) and listing status.

Accordingly, companies (except banking, insurance and NBFCs) that are listed on the recognised stock exchange of India or have shareholder's funds equal to or above INR 500 Cr. are required to adopt Ind AS from the financial year commencing on 1<sup>st</sup> April, 2016. Further, companies (except banking, insurance and NBFCs) having shareholder's funds equal to or above INR 250 Cr. are required to adopt Ind AS from the financial year commencing on 1<sup>st</sup> April, 2017. For NBFCs that are listed on the recognised stock exchange of India or have shareholder funds equal to or above INR 500 Cr. are required to adopt Ind AS from the financial year commencing on 1<sup>st</sup> April, 2018. In addition to this, NBFCs, which are having shareholder's funds equal to or above INR 250 Cr. are required to adopt Ind AS from the financial year commencing on 1<sup>st</sup> April 2019. For the remaining entities, it is still voluntary to adopt Ind AS for their financial statements.

Hence, the following methodology was adopted for the selection of the sample:

- We focused on all the companies listed on NSE/BSE as all the companies listed on stock exchanges are required to adopt Ind AS irrespective of their Net worth.
- Further, these companies were bifurcated under their respective industries as listed on the ACE knowledge portal.
- In each industry, we extracted the sample of the top 30 companies based on their shareholder funds (net worth) as of 1<sup>st</sup> April, 2017.
- We have selected all the companies, in case of any industry having less than 30 companies listed under it. However, Industries having less than five companies listed, were removed from the study.
- Finally, we took shareholder's funds for each of the selected companies as per Ind AS and as per GAAP for the year in which it was converted to Ind AS.

**Exhibit 1: Composition of Sample**

Step 1	We identify the industries from the ACE knowledge portal. Then we have taken those industries where IND-AS is applicable and has more than 5 companies under the industry. Total No. of Industries- 65 Total No. of Industries where IND- AS is applied: - 63 (Banking and Insurance Companies are not considered as IND-AS does not apply to both industries).
Step 2	From the above Industries, we extracted the list of all companies along with their Shareholder’s funds (Net worth) for the year in which Ind AS was implemented in that particular company.
Step 3	In the case of the industry where the numbers of companies are above 30, we selected the top 30 companies on basis of their Shareholder’s funds. And if the number is less than 30, then we have taken all the companies.
Step 4	We checked the year of conversion for each selected company. Based on that information, we prepared the prepared a list of Shareholder funds as per Ind AS for each company for the year in which it was converted. E.g., Cipla implemented IND AS in the year 2016; hence we have taken Shareholder’s funds as per IND-AS for Cipla in 2016. While Granules India implemented IND-AS in the year 2017, hence we have taken Shareholder’s funds as per Ind AS for Granules India in 2017.
Step 5	Once the list is prepared for the companies as per Ind AS, then Net worth as per GAAP is identified from the Annual Report of the company for the same year. For this, we used the BSE Plus platform.
The final sample consists of 1288 companies across 63 industries	

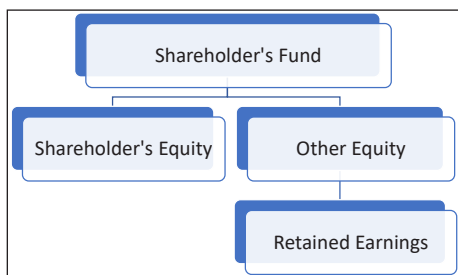
**Variable**

To analyse the transition, the impact of the selected variable is the shareholder’s fund (net worth) on the balance sheet. The value of the shareholder’s fund is obtained from the financial statements prepared according to the two sets of accounting standards (GAAP and IND-AS) for each company.

- The reason behind selecting a shareholder’s fund as a variable is precisely adopted from “Para 11, IND AS 101,” which states:

“The accounting policies that an entity uses in its opening IND AS balance sheet may differ from those that are used for the same date using its previous GAAP. The resulting adjustments arise from events and transactions before the date of transition to IND ASs. Therefore, an entity shall recognise those adjustments directly in retained earnings”.

Retained earnings is that part of the net profit which remains with the company after the distribution of dividend. This is part of the shareholder’s fund.



**Fig. 1: Breakup of Shareholder’s Fund**

Hence, the shareholders’ fund is an important component of planning as it consists of all the changes which have occurred due to the adoption of Ind AS and summarises the ownership structure of the company.

- For measuring the effect of Ind AS adoption on shareholder’s funds, we take the relative percentage change for an individual company. This is expressed by the formula:

$$\frac{IND\ AS - I\ GAAP}{I\ GAAP}$$

Where,

IND AS denotes the total shareholder funds of all the companies selected under that specific industry from the first financial statements prepared in accordance with Ind AS and

I GAAP indicates the total of shareholder’s funds of all the companies selected under that particular industry from the same financial statements prepared as per Ind GAAP.

While calculating the above total percentage change for a company if the value is more than zero it is a positive change and less than zero is a negative change. We also calculated the total percentage change in shareholders’ funds for the industry to identify which industry is greater (or lesser) affected by convergence.

- To determine whether the variable (percentage change) is normally distributed or not, we used the Shapiro–Wilk Test. The decision rule for the test is the rejection of the null hypothesis that the data is normally

distributed if the p-value is less than 0.05 at two tails. Because the data of some industries follow a normal distribution and others do not, our research examines both the cases of parametric and non-parametric data.

- For the industries where data follow the normal distribution, we used a paired sample *t*-test for statistical significance of the mean difference. In the industries where data does not follow the normal distribution, we used Wilcoxon signed-rank test for detecting whether the difference between two populations is statistically significant or not.

## FINDINGS

### Changes in Shareholder’s Funds (Net Worth)

Following is the percentage change in the shareholder’s fund of industries in order to measure the relative effect of IND AS adoption on the shareholder’s fund:

**Table 1: Percentage Change in Total Shareholder’s Fund of Industries**

Name of Industry	% Change in Shareholder’s Fund	Name of Industry	% Change in Shareholder’s Fund
Agriculture	12.37433943	Leather	65.22328714
Airlines	-312.1321026	Logistics	11.08684868
Aluminum	9.633926856	Metal-ferrous	1.056027791
Automobile	6.119971342	Metal-Non ferrous	8.581952094
BPO	0.879747442	Mining and Minerals	-0.236513119
Breweries and Distilleries	-12.13515485	NBFC	-7.04408666
Cable	13.81391942	Oil Exploration	9.441260422
Casting	5.126825324	Paints	18.83201462
Cement	3.656257887	Paper and paper products	15.36423982
Ceramics	-0.073223222	Petrochemical	16.3163461
Chemicals	9.588670026	Pharmaceutical	4.189813451
Construction	-5.19353589	Plastic Products	11.60921495
Construction-Engineering	0.235988578	Power generation and dist.	1.67044575
Consumer durables	10.57337398	Pesticides & Agrochemicals	3.037941813
Consumer food	12.18523589	Printing-Publishing	8.379253672
Dyes and pigment	4.795163369	Refinery	10.09993777
Education	-1.293366473	Retailing	-7.40358844
Electric component	-14.4519683	Rubber Products	3.900475867
Electric equipment	4.178655095	Shipping	-13.20857502
Engineering	7.002857588	Solvent Extraction	-57.43116782
Fertilizers	5.758751368	Steel and Iron Products	-4.548148591
Film production	-0.32463076	Sugar	16.98620745
Finance brokers	2.334346074	Tea-Coffee	10.60676304
Finance others	4.045599162	Telecommunication Equipment	-17.53401127
Forging	-0.503975865	Telecommunication Service	14.37602988
Glass	45.07653222	Textile	16.06675561
Hospitals	0.12358716	Trading	-1.876551912
Hotels	-0.939564194	Travel	5.45969327
Household products	12.7667578	TV Broadcasting and Software Production	-6.108551722
Industrial gas	11.23154637	Tire	5.580997871
IT	5.808688742	Wood and wood products	2.788660889
Jewelry and Diamonds	2.481894203		

The Table 1 shows the percentage change in shareholder's funds for each industry. There are 45 industries out of 63 that show a positive percentage change in the total shareholder's funds. While 18 industries show a negative percentage change. Some of the most positive changes are in industries like glass, leather, paint, petrochemicals, sugar, textiles, etc. In the glass industry, the total shareholder's fund as per GAAP was INR 1,62,542.65 lakhs from 11 companies, which increased to INR 2,35,811.24 lakhs as per Ind AS financial statement. In the sugar industry, the total shareholder's fund as per GAAP was INR 16,63,994.69 lakhs from 30 companies, which increased to INR 19,46,644.28 lakhs as per Ind AS financial statement. Whereas some of the negative shareholder's funds have changed in industries like airlines, solvent extraction, telecommunication equipment, retailing, etc. In the Airline industry, the total shareholder's fund as per GAAP was negative INR 92,076.62 lakhs from five

companies, which decreased to negative INR 3,79,477.31 lakhs as per Ind AS financial statement. Insolvent extraction industry total shareholder's fund as per GAAP was INR 2,59,541.158 lakhs from 29 companies, which decreased to INR 1,10,483.64 lakhs as per Ind AS financial statement. Further out of 45 industries that displayed positive change, 27 industries show a change in the range of 0 to 10%, 16 industries ranging from 11 to 20%, and two industries above 20%. Out of 18 industries that displayed negative change, 12 industries showed a negative change in the range of zero to negative 10%, four industries ranged from negative 11 to 20%, and two industries were above negative 20%.

Further, we conducted industry analysis for each company, where we tried to identify the number of companies showing positive, negative or no change in the shareholder's fund due to the adoption of Ind AS. Following, we present a number of companies with positive, negative or no changes:

**Table 2: Number of Positive and Negative Changes within Industry**

Name of Industry	Total Companies	No. of Companies having a Positive Change	No. of Companies Negative Change	No. of Companies No Change
Agriculture	22	13	6	3
Airlines	5	2	2	1
Aluminum	18	7	7	4
Automobile	14	11	3	0
BPO	16	9	3	4
Breweries and Distilleries	18	10	4	4
Cable	19	12	4	3
Casting	27	12	11	4
Cement	28	17	11	0
Ceramics	27	11	8	8
Chemicals	30	19	10	1
Construction	30	17	13	0
Construction-Engineering	30	18	12	0
Consumer durables	22	10	9	3
Consumer food	30	22	7	1
Dyes and pigment	17	12	3	2
Education	10	3	4	3
Electric component	26	7	13	6
Electric equipment	30	14	15	1
Engineering	16	5	8	3
Fertilizers	26	11	10	5
Film production	30	13	10	7
Finance brokers	30	8	15	7
Finance others	11	5	3	3
Forging	14	4	7	3
Glass	11	8	1	2
Hospitals	26	13	8	5

Name of Industry	Total Companies	No. of Companies having a Positive Change	No. of Companies Negative Change	No. of Companies No Change
Hotels	30	13	14	3
Household products	19	13	5	1
Industrial gas	20	9	6	5
IT	30	21	9	0
Jewelry and Diamonds	23	10	7	6
Leather	9	2	3	4
Logistics	28	15	11	2
Metal-ferrous	5	3	0	2
Metal-Non ferrous	23	11	5	7
Mining and Minerals	18	8	4	6
NBFC	21	9	12	0
Oil Exploration	5	4	1	0
Paints	5	5	0	0
Paper and paper products	30	20	8	2
Petrochemical	8	5	1	2
Pharmaceutical	30	25	5	0
Plastic Products	30	18	11	1
Power Generation and Distribution	30	23	6	1
Pesticides and Agrochemicals	20	10	8	2
Printing-Publishing	20	7	8	5
Refinery	8	5	2	1
Retailing	22	6	14	2
Rubber Products	14	9	3	2
Shipping	13	5	8	0
Solvent Extraction	29	9	9	11
Steel and Iron Products	30	14	15	1
Sugar	30	16	9	5
Tea-Coffee	19	12	4	3
Telecommunication-Equipment	17	5	9	3
Telecommunication-Service	8	5	3	0
Textile	30	19	10	1
Trading	30	14	13	3
Travel	7	5	0	2
TV Broadcasting and Software Production	23	12	10	1
Tire	9	5	4	0
Wood and wood products	12	4	5	3
TOTAL	1288	669	449	170

The Table 2 represents the number of companies within each industry that experienced an increase, decrease or no change with the transition to IND-AS. The total number of companies analysed are 1,288 across 63 industries out of which 669 (approx. 52%) companies shows positive change whereas 449 (approx. 35%) companies show a negative percentage change in shareholder's fund, and 170 (approx. 13%) companies show no change in their shareholder's fund.

Thus, we reject our null hypothesis that the convergence from GAAP to IND AS doesn't affect the shareholder's fund.

### Measures of Descriptive Statistics

Descriptive statistics are calculated to describe the main features of the collected data, which include maximum



negative and maximum positive percentage change in shareholder's fund of a particular company within the industry. We further calculated the average and variation in the data of companies' percentage changes within each industry. First, we derived the percentage change of each company within the industry and then found the average percentage change and deviation of the data. The deviation shows that there is a difference between companies within the industry from maximum negative change to maximum positive change. The higher percentage change in the standard deviation shows the extent of variation among

companies. The coefficient of variation shows the ratio of the standard deviation to the mean. It is a good measure to compare the variation between the industries.

Example: In the agricultural industry, there are 22 companies, so a percentage change in the shareholder's fund is found for each company, and then we derive the average of that percentage change for all 22 companies. In Annexure 3, we tried to derive the percentage change in the amount of shareholder's funds of each company and then tried to find an average, variation, and coefficient within the data of each industry.

**Table 3: Descriptive Statistics are Presented in the Following Table**

Name of Industry	Max. Negative Change in %	Max. Positive Change in %	Avg. of % Change in Shareholder's Fund of Companies	S.D. of % Change in Shareholder's Fund of Companies	Co. eff
Agriculture	-23.5453	120.4525	14.6503	33.2429	226.9093
Airlines	-135.3612	48.4609	-24.6691	71.4039	-289.4463
Aluminum	-27.7573	13.7359	-0.9311	8.0924	-869.1062
Automobile	-1.9403	11.1981	3.4313	4.4371	129.3124
BPO	-14.8989	112.6865	5.9512	29.0048	487.3813
Breweries and Distilleries	-38.9449	140.5517	11.1734	38.1841	341.7402
Cable	-25.0709	96.6515	7.9759	24.1474	302.7546
Casting	-7.3969	62.8572	2.3814	12.6447	530.9688
Cement	-11.7869	150.1325	10.5169	33.9858	323.1549
Ceramics	-7.5720	31.0051	2.1233	8.3635	393.8852
Chemicals	-31.3507	87.7446	10.9972	23.6268	214.8434
Construction	-22.7389	148.8505	2.7310	28.9917	1061.5870
Construction-Engineering	-37.2064	71.3416	0.2591	17.5625	6777.2932
Consumer durables	-30.7167	103.9349	2.9085	24.1656	830.8661
Consumer food	-14.9307	141.5775	13.8833	35.3164	254.3797
Dyes and pigment	-1.7009	2706.3902	163.5456	655.3376	400.7064
Education	-19.1087	2.5436	-3.3491	7.1492	-213.4645
Electric component	-2417.3254	62.8911	-87.9966	475.5353	-540.4018
Electric equipment	-66.9935	145.1482	13.2176	42.2432	319.5975
Engineering	-15.0523	17.7179	-0.2153	6.3276	-2939.2567
Fertilizers	-23.7413	22.7943	0.0573	9.9274	17337.5847
Film production	-11.6127	24.9073	0.1793	6.0731	3387.7711
Finance brokers	-9.8556	165.1710	4.8428	30.5939	631.7448
Finance others	-3.1231	14.6689	2.0946	5.0357	240.4145
Forging	-4.9421	82.2667	5.3237	22.2372	417.6977
Glass	-11.1844	90.4835	20.3726	35.0374	171.9826
Hospitals	-99.5603	24.1444	-2.6365	21.9628	-833.0215
Hotels	-66.7325	52.5538	-3.0002	18.8127	-627.0521
Household products	-105.5685	90.1875	2.4759	39.1195	1580.0351
Industrial gas	-76.4895	14.7448	-4.1213	20.6601	-501.2957
IT	-64.0534	32.3794	1.4394	14.4081	1000.9965
Jewelry and Diamonds	-79.7749	21.7034	-1.3725	18.0178	-1312.8169

Name of Industry	Max. Negative Change in %	Max. Positive Change in %	Avg. of % Change in Shareholder's Fund of Companies	S.D. of % Change in Shareholder's Fund of Companies	Co.eff
Leather	-20.8400	407.4716	41.4940	137.4810	331.3275
Logistics	-141.2955	883.5209	23.8738	172.1512	721.0870
Metal-ferrous	0.0000	6.5766	1.3639	2.9158	213.7834
Metal-Non ferrous	-26.2794	135.2273	8.9604	29.9142	333.8484
Mining and Minerals	-3.2993	22.4410	3.7613	7.7121	205.0417
NBFC	-70.6457	7.9792	-7.8828	18.4979	-234.6615
Oil Exploration	-0.0046	11.6654	7.2845	4.5645	62.6607
Paints	5.4083	180.2823	54.7771	73.3616	133.9275
Paper and paper products	-50.6983	2327.4843	90.6188	424.7404	468.7111
Petrochemical	-0.0882	51.2131	13.7981	22.2238	161.0643
Pharmaceutical	-15.9124	82.3506	5.4017	16.5558	306.4898
Plastic Products	-48.9387	156.4964	13.6465	38.4553	281.7954
Power Generation and Distribution	-16.4406	50.5523	3.3325	13.1834	395.6009
Pesticides and Agrochemicals	-6.8079	47.8569	4.0496	12.3371	304.6485
Printing-Publishing	-100.0357	134.5715	0.9237	39.0425	4226.5449
Refinery	-28.3693	156.5243	18.9700	57.1110	301.0595
Retailing	-81220.6478	42.0762	-3758.2648	17303.6626	-460.4163
Rubber Products	-34.5619	630.7425	61.6747	177.6762	288.0862
Shipping	-59.6421	12.8352	9.5915	17.4491	181.9224
Solvent Extraction	-457.9071	63.3456	-24.4228	91.2908	-373.7935
Steel and Iron Products	-30.5978	835.6167	37.7961	154.9000	409.8312
Sugar	-23.7919	2857.7678	123.8522	522.0584	421.5174
Tea-Coffee	-37.2182	393.8412	23.5202	90.8876	386.4236
Telecommunication-Equipment	-28.5309	14.2388	-2.5590	10.1953	-398.4042
Telecommunication-Service	-3243.8889	32.3071	-402.6871	1148.1207	-285.1149
Textile	-28.0290	290.1082	11.0267	53.5050	485.2327
Trading	-32.0300	118.1841	3.7192	26.2170	704.9185
Travel	0.0000	29.2393	5.7300	10.6159	185.2674
TV Broadcasting and Software Production	-163.5748	89.5100	-6.1852	47.3012	-764.7483
Tire	-2.1195	16.5506	2.7700	5.8449	211.0049
Wood and wood products	-1726.9664	324.0340	-103.8840	545.1776	-524.7945

The first and second columns of the Table 3 shows the maximum negative and maximum positive percentage changes in the shareholder's fund of the company in each industry.

Some of the major changes (positive or negative) in companies are quoted here, like Praxis Home Retail had a total shareholder's fund of INR 2.47 lakh as per GAAP, which decreased to negative 2006.15 lakh as per IND-AS which is approximately 81320 percent. The major reason behind this is the implementation of IND-AS 103, which is for business combinations.

Similarly, MTNL's earlier shareholder's fund is INR 12.6 lakh as per GAAP decreased to negative INR 396.13 lakh as

per IND-AS which is approximately negative 324 percent. The reason behind this is changing in the accounting standard of revenue recognition.

Dharni Sugar and Chemical's shareholder's fund as per GAAP is INR 620.38 lakh increased to 18349.4 as per IND-AS which is a positive 2857 percent due to the adoption of a fair valuation method for evaluating properties and types of equipment.

As per the third column, which is measuring the average in the data of companies' percentage changes within each industry, there are 27 industries that show a positive percentage of the average change in total shareholder's fund

ranging from 0 to 10%, 10 industries ranging from 11 to 20%, and 10 industries above 20%.

Ten industries show a negative percentage of the average change in the total shareholder's fund ranging from 0 to 10%, 0 industries ranging from 0 to 20%, and six industries above 20%.

According to the fourth column measuring variation in the data of companies' percentage changes within each industry, the maximum variation is found in the retail industry and the minimum variation is found in the metal-ferrous industry.

We further found the coefficient of variation (CV). It is the ratio of the standard deviation to the mean. The higher coefficient of variation suggests a greater level of dispersion around the mean, whereas the lower coefficient of variation suggests more precision in the estimates. The fertiliser industry has a higher coefficient of variation (17337.58%), whereas the oil exploration industry has a lower coefficient of variation (62.66%).

## Statistical Significance of Mean Difference

On observing the results of Shapiro normality tests, it was noted that a shareholder's fund derived from the financial statements prepared according to Indian GAAP and IND-AS was not normally distributed ( $p < 0.10$ ) in most industries. We used the Wilcoxon signed-ranks test, the most common non-parametric test, to detect whether the differences between the two populations are statistically significant or not. Further, to test the statistical significance of the differences in the mean values of the normal population, a paired sample  $t$ -test is used. The following Table 4 displays the level of significance of the percentage change data in shareholder's funds for each industry.

**Table 4: Level of Significance in Each Industry**

Name of Industry	Level of Significance
Agriculture	0.0339
Airlines	0.5155
Aluminum	0.3129
Automobile	0.0520
BPO	0.0904
Breweries and Distilleries	0.4401
Cable	0.0716
Casting	0.1368
Cement	0.0352
Ceramics	0.9787

Name of Industry	Level of Significance
Chemicals	0.1278
Construction	0.2226
Construction-Engineering	0.9288
Consumer durables	0.2837
Consumer food	0.0789
Dyes and pigment	0.0864
Education	0.4075
Electric component	0.6031
Electric equipment	0.2622
Engineering	0.2982
Fertilizers	0.2984
Film production	0.8067
Finance brokers	0.1773
Finance others	0.3300
Forging	0.6469
Glass	0.1395
Hospitals	0.9542
Hotels	0.6188
Household products	0.3286
Industrial gas	0.3022
IT	0.0864
Jewelry and Diamonds	0.0894
Leather	0.3655
Logistics	0.1451
Metal-ferrous	0.2519
Metal-Non ferrous	0.1895
Mining and Minerals	0.9132
NBFC	0.0305
Oil Exploration	0.2763
Paints	0.0625
Paper and paper products	0.1356
Petrochemical	0.2334
Pharmaceutical	0.0667
Plastic Products	0.2813
Power Generation and Distribution	0.4491
Pesticides and Agrochemicals	0.1173
Printing-Publishing	0.2072
Refinery	0.0939
Retailing	0.0850
Rubber Products	0.1366
Shipping	0.2640
Solvent Extraction	0.1956
Steel and Iron Products	0.7663
Sugar	0.1062

Name of Industry	Level of Significance
Tea-Coffee	0.3912
Telecommunication-Equipment	0.6828
Telecommunication-Service	0.4619
Textile	0.3275
Trading	0.6248
Travel	0.2941
TV Broadcasting and Software Production	0.4738
Tire	0.2002
Wood and wood products	0.4727

At a p-value of 0.05, a significant difference in shareholder's fund is observed across the three industries. These industries are agriculture, cement and NBFC. While 14 cases out of 63 industries are significant at a p-value of 0.10. These industries include automobiles, BPO, cable, consumer foods, dyes and pigments, IT, jewelry and diamonds, paints, pharmaceuticals, refinery and retailing apart from the above-mentioned three. It is concluded that IND-AS adoption has not significantly affected the number of industries that existed in India, thus accepting the null hypothesis (Ho2).

In the empirical research to identify the impact of convergence from IND-GAAP to IND-AS on financial statements in India, the present study considered shareholder's funds as a variable. The result of the study concerning percent change is that out of 63, a total 37 industries have percentage changes between the ranges of -10 and +10.

The result concerning significant change is out of 63, total 14 industries are significantly affected with maximum impact on NBFC (.03049) having a percentage change of negative 7.04%. The maximum p-value is of ceramic industry at .9787 and the total percentage change is negative at 0.0732.

## RESEARCH IMPLICATIONS

This study creates a primary base for our future research, as in this study our focus is restricted to finding out the effect of the implementation of IND-AS on industries. The reason behind the effect can be due to different accounting standards. In the future, researchers can focus on different individual accounting standards of IND-AS and their level of effect on the specific company. Further, this study is industry-specific; in the future, researchers can focus on company-specific cases. There are many instances where the overall change in the industry is not significant, but various companies in that industry show a high percentage change.

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