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IS DISAGGREGATE FORM OF INFORMATION VALUE RELEVANT? EVIDENCE FROM INDIAN LISTED COMPANIES

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Abstract *Despite its scarcity, capital is necessary for a country's economic development. To channelise capital foreign investment, financial intermediaries such as development banks, commercial banks, investment and financial institutions, insurance and investment banks are required. The expansion of the capital market is required to encourage and steer capital formation. The capital market encourages investment while also bringing vigour and dynamism to the country's business organisations. The availability of accounting information and financial reporting is crucial for the effectiveness of capital markets, efficient resource allocation, capital information and economic development. Prior researchers prove the relevance of accounting information as a predictor of changes in stock behaviour in particular and growth of stock market in general. To augment this aspect the relevance of segment wise information provided by companies becomes important to be studied. Hence, the present study examines the influence of segment reporting on value relevance. Stock price after 90 days from the end of the financial year has been taken as a dependent variable and various segment related dimensions as independent variable for the period 2016–2017 to 2021–2022. It employed Ohlson (1995) model and indicates that Segment reporting information has significant and positive influence on value relevance thus it clearly indicates that investor's view segment information while making investment decisions.*

Keywords: *Value Relevance, Segment Reporting, Book Value Per Share, Earnings Per Share*

INTRODUCTION

A consolidated financial statement reflects a company's total profitability, risk and potential for growth. However, as corporate organisations have become more diverse and complicated, investors and investment analysts require increased information that is relevant in order to make smart investment decisions. Business analysts and investors need to comprehend how numerous elements of a diverse organisation perform economically. Without disaggregation, it's extremely challenging for analysts and investors to forecast the entire timing, quantities and dangers of an entire firm's succeeding cash flows. For this reason, segmental information is crucial for investment research. The information provided by the company on segment wise helps investors to evaluate the company in a more comprehensive manner (Kumar & Sridharan, 2014). Further segment disclosures help in identifying non-contributing segments, improve corporate financial reporting, aid in better risk management (Shetiya & Saraf, 2017) and influence earnings forecasts (Gutsche & Rif, 2019). Analysts and investor support segment reporting by claiming that it improves risk profiles and growth of diversified entities (Birt & Shaileri, 2011). Thus, investors can have a complete study of the company before investing in it to reduce the risk and uncertainties.

According to Berger and Hann (2002), the disaggregated information is highly valuable and vital for readers of financial statements. According to a poll of 140 top sell-side analysts performed by Epstein and Palepu (1999), the majority of analysts for their investment decisions regarding segment-performance related information (Alfaraih & Alanezi, 2011).

Acknowledging the importance of segmental data for assisting investors in making lucrative decisions, the IASB (i.e., International Accounting Standards Board) released IFRS 8 (International Financial Reporting Standard) in November, 2006. The rapid expansion of the global market demonstrates that financial reports prepared in accordance with local GAAP and Accounting Standards (AS) will not fulfil the needs of foreign investors (Rao et al., 2020). India,

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being a developing country, cannot remain isolated from global changes (Vardia, Kalra & Soral, 2016). Thus, in an effort to improve transparency (Kalra Chadda & Vardia, 2020) and harmonisation of financial reporting standards, the Ministry of Corporate Affairs issued a note in 2015 outlining the several phases via which the Indian Accounting Standard (Ind-AS) might be converged with IFRS. Phase 1 from 1st April, 2016 it was mandatory for all public and unlisted companies with Net Worth ≥ ₹ 500 Crore. Phase 2 from 1st April, 2017 requires all companies with net value of at least ₹ 250 crore but < ₹ 500 crore to comply with this requirement if they are either listed or in the process of being listed. Phase 3 from 1st April, 2018 was Mandatory for all banks, NBFCs, and insurance businesses with net worth ≥ ₹500 crore. Last phase 1st April, 2019 it was mandatory for all NBFCs with net worth greater than or equal to ₹ 250 crore but less than ₹ 500 crore. Thus, segment reporting under AS-17 became the operating segment Ind-AS 108.

Based on information supplied to their organisation's Chief Operating Decision Maker (CODM), Ind-AS 108 employs a management approach which enables enterprises to choose the number of segments concerning that provide respective information, in addition to the disclosures for each segment that ought to be in their reports (CODM). Prior to Ind-AS 108, the preceding standard AS-17 gave extensive instructions on how to establish a segment for reporting purposes, in addition to a list of elements that required to be provided for each identified section (Mardini, Tahat & Power, 2018). In general, while pursuing a company the segment information has proved to be a key source of information. Segment reports assist investors in valuing the business by disentangling future cash flow streams which are sensitive for varied economic circumstances (Kajüter & Nienhaus, 2017). A corporation with various business units needs information that is not just about the enterprise's overall functioning, rather about the actions of particular segments inside the organisation. Investors and business analysts see the segment data crucial and necessary for investment research, so as to seek the data related to the segment that increases their ability to anticipate management actions affecting future cash flows.

Despite the necessity of regulators and users for segmented data, little academic research was conducted to analyse its significance in valuation. After an examination of the Ind-AS 108 rollouts, the present study looks into the amount of segment reporting disclosure as well as its value significance for Indian listed firms.

LITERATURE REVIEW

Previous empirical research here on value relevance for segmental reporting mostly in the framework of the management method is limited, and it is almost non-existent in India. Extensive reviews of various related studies shows that value relevance has increased after implementation of management reports and become a base for hypothesis development.

Kulah and Ibis (2022) investigated the relationship between value relevance and operating segments, that is, IFRS 8. Based on the dataset of 22 Istanbul companies for the period ranging from 2005-2020 and using panel data analysis, it highlighted the significant and positive relation between stock price and book value per share and income per share. Further, it concluded that positive relation of book value and income per share with stock price is figured for the companies that adopted IFRS 8 thus highlighting its significant impact on the companies. Chen and Zhang (2003) design and test a model that accounts for the incremental value relevance of segment data over firm-level accounting data. Using the real options valuation approach, it concluded that segment information is more relevant as compared to aggregate accounting information from an investment view point. Mardini, Tahat and Power (2018) evaluated the scope of segment disclosures and its value implications using the samples of Jordan and Qatari listed companies. Using Kruskal–Wallis test and one-way ANOVA, it concluded that the amount of disclosed segment information differs across different sectors. Additionally, the segmental data offered is value relevant and has the ability to explain changes in company share values. According to Hossain and Marks (2005), this management strategy made information on inter-segment sales more valuable and relevant. Additionally, they found that shareholders considered external sales while determining the market capitalisation. Kajuter and Nienhaus (2017) examined the significance and usefulness of German listed firms taking segments report. It was also discovered that IFRS 8 reduces the quantity of information made in segment reporting, however disclosures made were still proved to be value-relevant. Odoemelam, Ofoegbu and Okafar (2019) examined the influence of IFRS adoption on value implications of Nigeria companies and concluded that IFRS has led to increased value relevance in terms of earnings but was found insignificant in terms of book value. Birt et al. (2017), explored the value implications of segment reporting of Banks in India. They discovered that the no. of segments for which information was provided was value relevant and was connected with increased share prices. Nuryani, Heng and Ferah (2017) examined the value implications of the segment reconciliation as IFRS 8 mandates the companies in Indonesia to provide reconciliation information. The results show that reconciliations have a positive influence on the value of equity while it was negatively associated with audit quality.

Isaboke and Chen (2019) examine the relationship between conditional conservatism and value relevance on post

adoption of IFRS in China. With panel data of 28,723 firm years observation market relation has been related with state owned and privately held business. Result indicates that conditional conservatism is favourably (negatively) connected to value relevance before to (after) mandated IFRS adoption. Contrarily, in both the post- and pre-IFRS period, conservatism has a weak and negative correlation with the market valuation of both state-owned and privately held businesses. Sharma et al. (2022) investigated the influence of Ind AS on various accounting figures, as well as examine the prevalent views on Ind AS adoption in India. Using the sample of top 45 firms from the Bombay Stock Exchange, it discovered uniformity in the opinions of respondents with various work experiences and vocations regarding the influence of Ind AS on accounting figures. It suggested that Indian enterprises should give more disclosure in their financial statements to boost the informative content of accounting statistics.

Outa, Ozili and Eisenberg (2017) analysed the relevance of accounting information after IFRS adoption in East Africa. Results show that converged and revised IFRS has contributed to much higher value relevance in East Africa. Vardia, Kalra and Soral (2016) analysed the influence of value relevance post IFRS adoption in India. Using the pre and post financial periods criteria and employing the Ohlson model, it concluded that value implications improved in the post era and as far as variables are concerned book value is found to be significant as compared to earnings. Further, if the performance is concerned then companies that adopted IFRS seem to get the benefit in the way of increased performance. Roca (2021) examines the influence of IFRS on value implications in Argentina. Results show that value relevance doesn't improve in Argentina and all the selected variables show weaker relation with stock price.

The present study adds to the body of knowledge by examining value that are relevant for segmental reporting with respect to post-enforcement evaluation of IndAS-108 covering various sectors and countries. As a consequence, the paper assesses two hypotheses listed below:

H_1: Number of segments disclosed significantly predicts stock prices.

H_2: Amount of segment information disclosed significantly predicts stock prices.

RESEARCH METHODOLOGY

The current study examines value relevance of segment data over a period of six years, that is, from 2016–2017 to 2021–2022 as Ind-AS 108 became mandatory from the period ended 31st March, 2017. The initial sample includes top 100 BSE companies by market capitalisation. Out of 100 companies 19 companies (banking and insurance) were excluded due to their financial nature. Out of remaining companies, some of the companies were removed as they have one or no reportable segment and some due to non-availability of segment information. Thus, the final sample for the study consists of just 33 companies.

Table 1: Sample

Population	**100**
Less: Banking and Insurance companies	19
81	81
Less: Excluded due to Non availability of segment information i.e,	
Segment assets, segment liabilities	48
	33

The study is purely based on secondary data that has been extracted from annual reports of selected companies, website, money control and Yahoo finance.

VALUATION MODELS

Ohlson Model (1995) has been in the current study to examine the relation between segment information and stock price. This model has been used in various study including both developed and developing (Mardini, 2018; Kajüter & Nienhaus, 2017; Nuryani, Heng & Ferah, 2017; Alfaraih & Alanezi, 2011; Mardini & Tahat, n.d.). According to Ohlson's model, a firm's market value may be considered as a weighted average of earnings and book value.

The model can be illustrated as:

$$S_{it} = a_0 + a_1\, BV_{it} + a_2\, Earnings_{it} + e_{it} \qquad (1)$$

Where, S_{it} is market value at year end t for i firm, BV_{it} is book value of equity at year end t for i firm, $Earnings_{it}$ is EPS at year end t for i firm.

To eliminate bias due to fluctuations in company size, all variables in this model are scaled via the number of shares outstanding. Furthermore, to address any non-normality issues caused by the very small sample size, the dependent variable (S90) is converted into a log number. Thus, model can be represented as:

$$LogS90_{it} = a_0 + a_1\, BVPS_{it} + a_2\, EPS_{it} + e_{it} \qquad (2)$$

Where, $LogS90_{it}$ is log value of 90 days stock price at the end of financial year t for firm i, $BVPS_{it}$ is book value divided by the total number of outstanding shares at the conclusion of the fiscal year t for firm i, EPS_{it} is earnings divided by number of shares outstanding at the end of financial year t for firm i.

In order to examine the value relevance of segment reporting different segment related information i.e, segment assets,

number of segments, segment liabilities and segment income has been used. Thus, the further extent of valuation model can be expressed as:

$$LogS90_{it} = a_0 + a_1\ BVPS_{it} + a_2\ EPS_{it} + NS_{it} + e_i \quad (3)$$

Where NS_{it} is number of operating segments.

$$LogS90_{it} = a_0 + a_1\ BVPS_{it} + a_2\ EPS_{it} + NS_{it} + SIPS_{it} + SAPS_{it} + SLPS_{it} + e_{it} \quad \ldots\ldots \quad (4)$$

Where, $SIPS_{it}$, $SAPS_{it,}$ and $SLPS_{it}$ are Segment income, Segment Assets and Segment Liabilities per share at the end of financial year t for firm i.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2: Descriptive Statistics of Variables

Variables	N	Mean	Std. Deviation	Minimum	Maximum
LogS90	198	2.74	0.46	1.65	3.86
BVPS	198	236.15	242.51	26.79	1314.09
EPS	198	38.68	83.61	-84.89	991.38
NS	198	4.00	1.94	2.00	10.00
SIPS	198	87.67	168.87	-8.23	1451.09
SAPS	198	770.08	1961.01	7.46	2399.12
SLPS	198	327.40	721.87	4.92	6926.57

Source: Authors' own calculation.

The Table 2 highlights descriptive statistics of all the variables used in the study. The mean value of logS90 is 2.746 with std deviation of .4669 having the minimum and maximum value 1.652 and 3.862. Number of segments disclosed ranges from 2 to 10 with mean of 4 and std deviation of 1.948. This implies that the number of segments does not vary to a great extent. Book value per share ranges from 26.79 to 1314.09 with mean 236.15 and std deviation of 242.51. The mean value of earnings per share is 38.68 with std deviation of 83.61 with minimum and maximum value ranges from -84.89 to 991.38.

Correlation Matrix

Correlation was performed prior to doing the value relevance analysis to assess the link between both the share prices as well as the independent variables, in addition to many independent variables, to look if multicollinearity exists.

Table 3: Correlation among Variables

	LogS90	BVPS	EPS	NS	SIPS	SAPS	SLPS
LogS90	1						
BVPS	.455	1					
EPS	.384	.705	1				
NS	.033	.262	-.036	1			
SIPS	.204	.395	.136	.027	1		
SAPS	.223	.476	.102	.189	.746	1	
SLPS	.241	.452	.187	.330	.589	.770	1

Source: Authors' own Calculation.

Table 3 reports Pearson correlation among dependent and independent variables. There exists statistically significant and positive correlation between dependent (LogS90) and independent variables (BVPS, EPS, NS, SIPS, SAPS, SLPS). As far as correlation among independent variables is concerned it is also positive and significant except that of between EPS and number of segments disclosed. There exists a high correlation between segment income and segment assets of .746 and .770 between segment assets and segment liabilities. But this doesn't seem to affect further analysis thus, multicollinearity is not an issue in the current data set. As a rule of thumb VIF (Variance Inflation Factor) of above 10 is an indicator of high correlation or multicollinearity among variables. VIF in the regression Table below is between 1 and 4 thus multicollinearity is not issue in further analysis.

Regression Analysis

Table 4: Relation between Number of Segment Disclosed and Stock Price

	Coeff.	T-Value	P-Value	VIF
Intercept	2.572	6.650	0.00	
BVPS	0.051	5.562	0.000	2.908
EPS	0.091	2.288	0.023	2.265
NS	0.172	3.271	0.001	1.273
R-square = 0.43	Adjusted R-square = 0.42	f-statistics = 18.42	Prob. (f – stat.) = 0.000	

Source: Authors owns calculation.

Table 4 highlights the relation between number of segments disclosed and stock price. It indicates positive and significant relation as p value is less than 0.05 between number of disclosed segments and stock price. BVPS and EPS are also statistically positive and significant with t value of 5.562 and 2.288. R-square and Adjusted R-square is 0.43 and 0.42 which means that that model is statistically fit. The f statistics value is 13.20 with prob. value of 0.000. The value of f-stat. is found to be significant and less than 0.05 the null hypothesis is rejected. Thus, it indicates that the number of segments significantly predicts stock price.

Table 5: Relation between Segment Information and Stock Price

	Coeff.	T-Value	P-Value	VIF
Intercept	2.59	4.441	0.000	
BVPS	.211	1.934	0.001	2.908
EPS	.327	3.397	0.001	2.265
NS	.033	4.612	0.006	1.273
SIPS	.091	1.008	0.003	2.346
SAPS	.480	0.383	0.007	3.908
SLPS	.872	0.829	0.013	2.675
R- Square = 0.56	Adjusted R-square = 0 .53	f-statistics = 13.20	Prob. (f – stat.) = 0.000	

Source: Authors owns calculation.

Table 5 highlights association between segment information and stock price of the selected companies. Here, also all the coefficients of segment related variables are statistically significant and positive. Segment income per share, segments assets per share and segments liabilities per share is positive and significant with t-stat. of 1.008, 0.383, 0.829 and p-value of 0.003, 0.007, 0.013, respectively. The model is statistically fit as R square is 0.56 and adjusted R square is 0.53. The f-stat. value is 13.20 with prob. (f-stat.) is 0.000. The null hypothesis is rejected as f-stat. is less than 0.05. Thus, it indicates that the amount of segment information disclosed significantly predicts stock prices. This demonstrates that when making valuation assessments, market participants used segmental information for equity pricing.

CONCLUSION

The study assesses the value pertinence for segmental reports to assess if they aid in understanding share prices. The result clearly indicates that there exists a positive and significant relation between segment information and stock prices. The benefits of the new segment reporting requirements depending upon this management technique appear to benefit investors, as they have an influence on share prices. As per the result of this study, Ind-AS 108 management approach has improved reporting effectiveness by disseminating external users what is believed to be trustworthy segmental information. The current investigation's findings provide policymakers including SEBI and ICAI with various insights. The outcomes are of broad significance to standard setters as they advocate the value relevance of segment reporting which is calculated primarily by segmental profitability instead of equity. Additionally, the findings provide standard-setters with some insight into how financial markets operate in developing market nations and also evaluate the data presented by new accounting standards, such as IFRS 8.

Since this study has explored the evidence of having value relevance on account of segment wise disclosures provided

by Indian companies, the outcome of this attempt would lead to utility and usefulness of segment report, specifically on segment wise information. Diversified company may be expected to focus on the quality of segment information. On the other hand, the article mirrored the satisfactory position on adoption of Ind AS 108 and observed that most of the companies did not provide separate information on segment assets and liabilities. Resultant highlights the need to provide information on these categories specifically so that usefulness of such information may be enhanced. This work may be supplemented by increasing the sample size covering about 200 companies. Further, cross country evidence can also be explored and investigated.

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