

# Voluntary Disclosure of Financial Ratios in India<sup>†</sup>

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*The study examines the magnitude of voluntary financial ratio disclosure in India and the association of the magnitude of voluntary disclosure of financial ratio with the performance of the company, size and industry classification. The companies selected for the study were CNX100 National Stock Exchange (NSE) companies. Multiple regression and correlation were used to understand the relationship between disclosure index and selected independent variables. The study found the magnitude of voluntary disclosure of financial ratios to be low. The regression and correlation results revealed that the magnitude of financial ratio disclosure was significantly influenced by the size of the company. The study concluded that companies in India must disclose financial ratios, as it would help stakeholders understand and interpret the financial statements better. For better investment decisions, the securities market regulator of India, SEBI needs to take a view on making reporting of selected ratios mandatory. For comparability purposes, SEBI may also standardize the method of calculating financial ratios.*

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**Key Words:** Correlation, Financial ratios, India, Multiple regression, Voluntary disclosures

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## INTRODUCTION

Stanga (1976) stated that good corporate disclosures, among others foster a healthy relationship between a company and professional analysts; tend to reduce fluctuations in security prices, and help to eliminate insider profits and the related legal problems. Over years, both mandatory and voluntary disclosure requirement have risen and thus have been the focus of attention. Voluntary disclosure has been an area of interest to researchers for many years (Cerf, 1961; Singhvi and Desai, 1976; Firth, 1979 and 1984; Verrecchia, 1983 and 1990; Chow and Wong-Boren, 1987; Cooke, 1989 and 1991; Skinner, 1994; Hossain and Adams, 1995; Raffournier, 1995; Courtis, 1999). Variations

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in corporate disclosure practices exist since corporations are managed by groups with varying managerial philosophies and wide discretion in disclosing information to the investing public. Motivation for voluntary disclosures as identified by Subramanyam and Wild (2014) are legal liability, expectations adjustments, signaling and manage expectations. Agency theory may also explain why managers disclose voluntary information (Firth, 1979). Competitive market forces may induce the management to disclose more information voluntarily. Better corporate disclosure practices are helpful in boosting brand name and goodwill, building a tenacious corporate culture, mitigating frauds, and in avoiding litigations and fines (Narayanaswamy, 2011). According to Singhvi and Desai (1971) "inadequate corporate disclosures is likely to widen fluctuations in the market price of a particular security since investment decisions, in the absence of adequate information, are based on less objective measures".

Of the various voluntarily disclosed items in an annual report, one noteworthy item is financial ratios. Gibson (1982) suggests, "probably no tool is more effective in evaluating where a company has been financially and in projecting the financial future of a company than the proper use of financial ratios". If ratios are valuable to users then companies should disclose them in order to reduce user uncertainty, thereby lowering the cost of capital. It increases the quality of annual reports. As per, Watson *et al.* (2002), "the disclosure of ratios in company accounts may provide users of financial statements with new information not calculable elsewhere, or may simply provide information available elsewhere in the same or different form." In case this information is included in the annual report it brings down the cost of obtaining the information elsewhere and saves time apart from increasing the understanding of the stakeholders. As per Barnes (1987), "financial ratios are used by accountants and analysts to forecast future financial variables and by researchers for predictive purposes, namely credit rating, assessment of risk and corporate failure". Financial ratios involve establishing a relevant financial relationship between the components of financial statements for further investigation. It is a powerful tool for recognizing company's strength as well as its probable trouble spots.

Corporate voluntary disclosure of information can take several forms. Many studies on voluntary disclosures in various types and forms have been conducted in India; on Economic Value Added (EVA) disclosures by Kaur and Narang (2010), corporate social disclosures by Murthy (2008), intellectual capital disclosures by Joshi *et al.* (2011), Human capital disclosures by Jindal and Kumar (2012). This paper focuses on a particular type of voluntary disclosure that of financial ratios in corporate annual reports, as it is believed such information is of value to users of accounts. To our knowledge, this is the pioneer research on voluntary disclosures of financial ratio of Indian companies.

The current study is based on a study by Watson *et al.* (2002) on UK companies and Abdullah and Ismail (2008) on Malaysian companies.

The objective of this study is:

- To determine the magnitude of voluntary disclosure of financial ratio in annual reports of CNX 100 NSE companies
- To examine the association between the voluntary disclosure of financial ratios and company's performance, size and industry.

For meeting the above objectives six hypotheses are proposed, and then tested using multivariate analysis.

The rest of the sections are organized as follows: Section 2 presents the review of literature; Section 3 describes the Research methodology and empirical testing of hypotheses; Section 4 presents the findings of the study; Section 5 presents conclusions and implications; Section 6 presents the limitations of the study and recommendations for further research.

## REVIEW OF LITERATURE

The literature on accounting disclosures is substantial and these studies covers broad range of issues. Studies on corporate disclosure practices either investigate mandatory or voluntary disclosures or both. Financial ratios disclosures fall under the purview of voluntary disclosure. Keeping this in view, literature review is divided in two sections: the first section is devoted to voluntary disclosures and second section deals with studies on utility of financial ratios and financial ratio disclosures.

## VOLUNTARY DISCLOSURES

Purpose of any disclosure system as defined by Financial Accounting Standards Board is to, provide information that is useful to present and potential investors and creditors and others in making rational investment, credit and similar decisions: Voluntary disclosure of information facilitates to make capital markets more efficient by decreasing information asymmetry between 'insiders' and investors Abeysekera (2008). Shareholder value and market value of an organization is enhanced by disclosing voluntary information in the annual reports to capital markets (Abdolmohammadi, 2005). Confidence in the securities market is enhanced and investors' interest is protected against securities fraud with improved corporate disclosure practices (Meek *et al.*, 1995).

The first study on measuring corporate disclosure through an index of disclosure was conducted by Cerf (1961). In this study, it was revealed that there are many variables which influence the quantum and kind of disclosure; usually there is interrelationship among these variables. It was concluded that there exists a positive relationship among the disclosure scores, asset size, number of stockholders and rate of return. Since 1961, there has been many studies conducted on voluntary disclosures both in developed countries and developing countries. Study by Singhvi and Desai (1971) summarized that the corporations which disclose insufficient information are

likely to be small in size, free from listing requirements, audited by small Certified Public Accountants (CPA) firm and less profitable.

There are many studies connecting level of voluntary disclosures with determinants (Wallace *et al.*, 1994; Camfferman and Cooke, 2002; and Alsaeed, 2006). The most common determinants used to elucidate the difference in voluntary disclosures studied are size of the organization, leverage, age of organization, profitability, liquidity and ownership pattern.

In Indian setting it has been observed that there are wide variations in voluntary disclosures across different information items (Varghese, 2012). Shankar (1972) conducted a study to explore the adequacy of corporate reporting in the Indian annual reports, as compared to US, UK, Japan and Germany. The Indian annual reports were found to be 'artificial and discontinuous'. It was felt that accounting professionals and shareholders can play a major role in improving the quality of annual report.

#### VOLUNTARY FINANCIAL RATIOS DISCLOSURES

Though there has been increasing interest in voluntary disclosures, however there are limited studies on financial ratios disclosures. Prior studies examined the use of financial ratios to predict failure (Beaver, 1966; Altman, 1968; Deakin, 1972; Libby, 1975; Casey, 1980 and 1983; Zimmer, 1980; Castagna and Matolesy, 1981; Houghton, 1984; Houghton and Sengupta, 1984). As per the pioneer study by Beaver (1966) the utility of ratios depends on a particular objective for which it is being calculated. Lee and Tweedie (1977) opined that several ratios are important enough indicators of company progress and performance to be disclosed in annual financial reports and to be quoted extensively in the financial press. Financial ratios provide insight about firms' financial condition (Subramanyam and Wild, 2009). Ratios being so useful for stakeholders should be disclosed to lessen user uncertainty, thereby lowering the cost of capital (Watson *et al.*, 2002).

Williamson (1984) studied the selective reporting of financial ratios and the conclusion was that the selective reporting of financial ratios appears to be more dependent on deviation from industry medians than on improvements in the ratios.

Watson *et al.* (2002) carried out a study on UK companies' practices of voluntary disclosure of ratios. The conclusion drawn by their study is that the companies which are large in size disclose more ratios as compared to companies which are small in size. The nature of the business also has impact on voluntary disclosure practices, it was observed that utility and media industry is disclosing fewer ratios in UK. They also observed that different companies were calculating ratios in different ways and were disclosing different ratios.

Abdullah and Ismail (2008) conducted research on voluntary ratio disclosure practices by Malaysian companies. They prepared a voluntary disclosure index and related it to

size, industry and performance (profitability, leverage, efficiency and liquidity). They found that the large and regulated companies disclose more than others and it also depends on internal and external antecedent such as firm and industry norms. They recommended that there should be standardization of disclosure practice so that the users and analysts gain from it. Regulatory bodies should standardize the reporting and method of calculating ratios and should persuade companies to disclose more accounting ratios.

Aripin *et al.* (2011) studied the extent of financial ratios disclosure and determinants of disclosures for Australian firms. It was observed that the firm's size, non-audit fees and profitability has influence on extent of financial ratio disclosures.

## DATA AND METHODOLOGY

### SAMPLE SELECTION

Our sample comprises of 78 companies (Table 1a and 1b), all from CNX 100. CNX 100 is a well diversified stock index accounting for 38 major industries of the Indian economy. Nearly 78% of the free float market capitalization of equity in India is captured by this index, as on December 31, 2012. This indicates that it is representative of all the listed companies in India. Previous studies indicate that the size of a company is an important determinant of disclosure; large companies have higher probability of financial ratios disclosures represented in CNX 100. As the ratios and reporting regulations of the banking and finance companies are different from industries, these companies have not been considered in the sample. Of CNX 100 companies 22 are banking and finance companies, which are excluded from the study.

Firms listed in the CNX 100	100
Less banking and financial services companies	22
Remaining companies considered for study	78

S. No	Industry	Number	Percentage
1.	Automobiles (comprising of 2 wheeler, 4 wheeler, auto ancillary and diesel engines)	10	13
2.	Consumption (comprising of personal care, food and food processing, cigarettes and FMCG)	8	10
3.	Energy (comprising of power, gas and oil exploration/production)	14	18
4.	Infrastructure (Comprising of Construction, engineering, cement and shipping)	13	17

Table 1b(Cont.)

S. No	Industry	Number	Percentage
5.	Metals and Mining (Comprising of aluminum, metal mining, steel and steel products)	7	9
6.	Pharma and chemicals (Comprising of pharmaceuticals, pesticides and agrochemicals)	11	14
7.	Services (Comprising of computer software, telecommunication, hotel, media and entertainment)	15	19
	<b>Total</b>	<b>78</b>	<b>100</b>

### SCORING OF ITEMS AND CONSTRUCTION OF INDEX

For measuring the level of financial ratio disclosure, index of disclosure method is used, owing to its wider use by researchers and acceptability. The index for disclosure index can be created either by using weighted or un-weighted scores. Many researchers have used weighted disclosure index where in different items are assigned different weights on the basis of importance or type of disclosure (Bergamini and Zambon, 2002; and Kang, 2006).

Williams (2001), Watson *et al.* (2002), Abdullah and Ismail (2008) in Malaysia used un-weighted disclosure index wherein equivalent importance is assigned to all the items. The basis of using un-weighted index is that the annual reports are read by various stakeholders with different objectives, thus they attach different importance to these items. This paper uses the un-weighted index as it brings down bias that is involved in deciding the weights of each item (Courtis, 1996; Ahmed and Courtis, 1999; and Williams, 2001).

Companies' annual reports for the period 2011-12 are downloaded from investors' section of company's website for scoring purposes. Financial ratios are classified into seven categories, i.e., profitability, growth, capital structure, efficiency, liquidity, dividend and investment ratios. Within these categories there is further sub classification. The mandatory accounting ratios, i.e., dividend per share and earnings per share are ignored as the study is based on voluntary disclosure of financial ratios.

For constructing the disclosure index, each company is given a score of 1 for every ratio disclosed and nil score for ratio not disclosed. Disclosure index is made by dividing the total number of financial ratio disclosed by the maximum score attained by a company in a sample, i.e., average is considered. A score sheet was prepared for after looking in to details of the annual report of the sampled companies.

$$Disclosure\ score = \sum_{i=1}^n d$$

where,

$d = 1$  if the ratio is disclosed and nil if it is not; and

$n =$  Number of items

$Disclosure\ index = Disclosure\ score / Highest\ score\ by\ a\ company\ in\ the\ sample$

## MODEL SPECIFICATION

Keeping in view the objective of the study multiple regression analysis is considered as an appropriate model. The attributes that influence the voluntary financial ratio disclosure (dependent variable) are profitability, liquidity, capital structure, efficiency and size of the company. Ratio disclosures also depend on the sector classification. Sector classification is considered by using dummy variables

$$Y_{VFRD} = \alpha + \beta_1 X_{Prof} + \beta_2 X_{Liq} + \beta_3 X_{Lev} + \beta_4 X_{Eff} + \beta_5 X_{size} + \sum \beta_j X_j + \varepsilon$$

Description of dependent and independent variables measured and analyzed during the course of this study.

Title	Description
<b>Dependent Variable</b>	
VFRD	Voluntary financial ratio disclosure represented by the ratio of the number of financial ratios disclosed by the highest score.
<b>Independent Variables</b>	
$a$	Embodies the influence of such variables as have been excluded from the model but exercise some influence on voluntary financial ratio disclosure (vfrd). It may also be interpreted as the minimum autonomous value of $Y$ , which is not affected by any change in the value of other variables.
$Prof$	Profitability represented by return on investment as on March 31, 2012.
$Liq$	Liquidity represented by current ratio as on March 31, 2012.
$Lev$	Leverage represented by debt equity ratio as on March 31, 2012.
$Eff$	Efficiency represented asset turnover ratio as on March 31, 2012.
$Size$	Size represented by natural logarithm of market capitalisation as on March 31, 2012.
$X_j = IndClas$	For Industry Classification, seven dummy variables ( $X_6$ to $X_{12}$ ) are used one each for automobiles, consumption, energy, infrastructure, metal, pharmaceuticals and services industry.

## VARIABLES AFFECTING DISCLOSURES AND HYPOTHESES DEVELOPMENT

This study proposes to test the association between voluntary financial ratio disclosure and company profitability, liquidity, capital structure, efficiency, size and industry classification. The discussion on how the hypotheses are developed follows.

### Company Profitability

The difference in the extent of disclosure can be explained, to some extent, by the difference in profitability of the companies. If a company's profitability is better than

the standard, then its management communicates voluntarily more to stockholders regarding its robust financial position (Singhvi and Desai, 1971) and the organizations with the bad news shall disclose less than the organizations which have good news to share (Naser, 1998). Ahmed and Courtis (1999) opined that the companies will be motivated to signal to stakeholders that their performance is sound. Singhvi and Desai (1971) found a conclusive relationship among return on investment and the quality of disclosure. Hence, it is expected that voluntary financial ratios are positively associated with the profitability of the company.

$H_1 =$  *There is a relationship between extent of financial ratio disclosure and profitability of the company.*

For the present study Profitability is measured by Return on capital employed

### **Liquidity**

The suppliers of credit to an enterprise are interested in assessing the ability of the enterprise to repay their dues, and to assess this ability liquidity ratios are calculated. These ratios are also calculated to predict failures (Beaver 1966, Altman 1968, Deakin, 1972, Libby, 1975, Casey, 1980 and 1983; Houghton, 1984; Houghton and Sengupta, 1984; and Zimmer, 1980, Castagna and Matolsky, 1981). A higher liquidity ratio indicates better position for the company to meet its obligations. Abdullah and Ismail (2008) found that liquidity has an association with the degree of voluntary financial ratios. Negative relationship between liquidity and disclosure was found by Wallace et al. (1994). Based on the above discussion the next hypothesis is developed.

$H_2 =$  *There is a relationship between extent of financial ratio disclosure and liquidity of the company.*

For the present study liquidity is measured as a ratio between current assets to current liabilities.

### **Leverage**

In attempting to understand voluntary corporate disclosure, many empirical studies have used leverage as an explanatory variable. One reason for an association between debt and disclosure relates to the agency costs of the shareholder-bondholder conflict. Ross (1977) opined that boost in financial leverage is an affirmative signal as it is an expression of confidence by managers of the corporation's future. On one hand, it is believed that high debt firms, under greater scrutiny by creditors, disclose more comprehensive information on different corporate items especially those relating to debt covenants. On the other hand it is argued by Belkoui and kahl (1978) that there is negative relationship between leverage and disclosures. Adams et al. (1998) argued that the voluntary disclosures are influenced by company's capital structure. To study the relationship third hypothesis is developed as follows:



$H_3 =$  *There is a relationship between extent of financial ratio disclosure and leverage of the company.*

For the present study leverage has been measured as a ratio between debt to equity.

### **Efficiency**

An enterprise which is able to generate higher revenue with the same amount of assets or same revenue with lower amount of assets indicates efficiency in assets utilization. This set of ratios relates the output (usually sales) with the assets base. For better growth of the company the utilization of assets at disposal needs to be effective. Management which is able to utilize the assets well, will like to share the good news with stakeholders, thus should be voluntarily disclosing more ratios. Study conducted by Watson *et al.* (2002), Abdullah and Ismail (2008) used efficiency as a variable to study voluntary financial ratio disclosure, based on this next hypothesis is tested.

$H_4 =$  *There is a relationship between extent of financial ratio disclosure and efficiency of the company.*

For the present study efficiency has been measured as a ratio between total sales to total assets.

### **Size**

Singhvi and Desai (1971), Buzby (1975), Cooke 1989, Watson *et al.* (2002), and Abdullah and Ismail (2008) found that the size of the organization has a conclusive relationship with the extent of voluntary disclosures. Large organizations deal with considerable amount of information, for which they have information system in place. Collecting and circulating information is an expensive exercise; smaller organizations normally do not have desired resources to do so. Large organizations dealing in multiple products and services need information internally to make effective decisions. This data further helps in presenting and communicating the information. Based on previous findings, this study contemplates that there is an association between size of the organization and voluntary financial ratio disclosure.

$H_5 =$  *There is a relationship between extent of financial ratio disclosure and size of the company.*

For the present study size has been measured as a market capitalization. To allow for a nonlinear effect due to size, the values for market capitalization is converted into natural logarithm (Chow and Wong-Boren, 1987).

### **Industry Classification**

Studies conducted on UK companies by Watson *et al.* (2002), on Japanese companies by Cooke (1991), on Malaysian companies by Abdullah and Ismail (2008) argued that there exist an association between the industry classification and disclosure. In order to study the association among nature of industry and extent of voluntary financial

ratio disclosure in annual reports, the researcher has divided the CNX 100 companies into seven broad classifications, i.e., automobiles, consumption, energy, infrastructure, metals, pharmaceuticals and services. Seven industry dummy variables were introduced to conduct regression analysis. Each of these was assigned a value of 1 when they fell in the industry group represented by it.

$H_6 =$  *There is a relationship between extent of financial ratio disclosure and industry classification of the company.*

## RESULTS AND DISCUSSION

The annual reports of the sample companies reveal that 65 companies are disclosing financial ratios voluntarily of 78 companies. Table 2 indicates that profitability ratios are most popular, followed by investment, leverage, dividend, liquidity, efficiency and growth. The number of financial ratios disclosed in annual reports of 2011-12 of CNX-NSE companies revealed that 50 companies (Table 2) were showing at least one profitability ratio, EBITDA margin and operating margin were the most popular ones. Table 2 gives further insight about number of companies disclosing financial ratios and the distribution thereof. 55% of the companies revealed investment ratios and among these return on capital employed is the most disclosed ratio.

As revealed by Table 3, majority of the companies are disclosing only one ratio in each category, except under profitability ratios where companies are disclosing two ratios.

Table 4 reflects the frequency of companies disclosing financial ratios. Of 78 companies, 13 did not disclose any ratio; this is 17% of the sample. 4 companies are disclosing one ratio, 9 companies are disclosing 3 ratios. 14% of the sample is disclosing 5 ratios.

**Table 2: Number of Companies Disclosing different Type of Financial Ratios**

Sample Size	Profitability		Growth		Efficiency		Liquidity		Leverage		Dividend		Investment	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
78	50	64	9	12	15	19	16	21	38	49	20	26	43	55

**Table 3: Distribution of Financial Ratios Disclosure by Type of Ratio**

	Profitability		Growth		Efficiency		Liquidity		Leverage		Dividend		Investment	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
NOR														
0	28	36	69	88	63	81	62	79	40	51	58	74	35	45
1	10	13	4	5	9	12	15	19	25	32	20	26	12	15
2	22	28	2	3	2	3	1	1	6	8			12	15

Table 3 (Cont.)

NOR	Profitability		Growth		Efficiency		Liquidity		Leverage		Dividend		Investment	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
3	6	8	1	1	2	3			5	6			12	15
4	6	8	2	3	0	0			2	3			5	6
5	2	3			1	1							0	0
6	3	4			1	1							1	1
7	1	1											1	1
<b>Total</b>	<b>78</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>78</b>	<b>100</b>

Note: NOR: Number of ratios disclosed, F: Frequency.

Table 4: Frequency of Companies Disclosing Financial Ratios

No. of Financial Ratios Disclosure	Disclosure Index	Frequency	Percentage
No disclosure	0.00	13	17
1	0.06	4	5
2	0.11	9	12
3	0.17	4	5
4	0.22	7	9
5	0.28	11	14
6	0.33	7	9
7	0.39	7	9
8	0.44	7	9
9	0.50	1	1
10	0.56	2	3
11	0.61	1	1
13	0.72	2	3
16	0.89	1	1
17	0.94	1	1
18	1.00	1	1
<b>Total</b>	<b>78</b>	<b>100</b>	

#### ASSOCIATION BETWEEN MAGNITUDE OF VOLUNTARY DISCLOSURE OF FINANCIAL RATIOS AND EXPLANATORY VARIABLES

##### *Descriptive Analysis*

Descriptive statistics summarizes large quantities of data and present it in simple form. The descriptive statistics for the dependent and explanatory variables are presented

in Table 5. Out of the total number of ratios considered for the study in the disclosure list (18), the firms disclose on an average, 0.271 (27%) that is approximately 5 ratios, varying from highest 18 ratios and the lowest being zero. This implies that Indian companies' extent of voluntary financial ratios in annual reports is low. Table 5 also presents the descriptive statistics of the independent variables.

	Disclosure Index	Profitability	Liquidity	Leverage	Efficiency	Size
Mean	0.271	23.734	1.454	0.747	1.738	10.178
Median	0.278	19.015	1.230	0.425	1.305	10.098
Std. Deviation	0.224	20.543	0.967	0.961	1.433	0.968
Range	1.000	132.980	6.786	4.600	6.370	3.940
Minimum	0.000	2.290	0.074	0.000	0.060	8.470
Maximum	1.000	135.270	6.860	4.600	6.430	12.410

### Multivariate Analysis

**Multi-collinearity:** While using multiple regression model, one particular issue that arises is the presence of multi-collinearity in the regressors due to close relations between various variables; the variables were thus checked for multi-collinearity. It was done in two ways, one by examining the correlation coefficients between the independent variables and second by conducting Variance Inflation Factor (VIF) test. The highest correlation coefficient among independent variables is 0.655 as reflected in Table 6. A general rule is if the correlation coefficient is between  $-0.7$  and  $0.7$  then there is no problem using both the independent variables for the study (Lind *et al.*, 2008). To check further, VIF test was also conducted. It is usually accepted that if any VIF is more than 10 and the tolerance value is below 0.10 it points out that there is a problem of multi-collinearity (Gujarati, 2004; and Hair *et al.*, 2010). The results as given in Table 7a show that the coefficients of independent variables and the tolerance value are quite below the rule of thumb. As a result, multi-collinearity was not a problem with our regression model.

### Correlation Matrix Analysis

Table 6 reveals the result of Pearson Correlation Coefficients among variables. The highest correlation coefficient is 0.655 among profitability and efficiency, followed by correlation coefficient 0.384 among disclosure index and size. Leverage has negative correlation with profitability and liquidity at 1% level of significance. Consumption goods industry has high positive correlation with profitability and efficiency. Infrastructure sector is using more debt. The coefficients of correlation indicate that the explanatory variables have expected association with disclosure index.

Table 6: Pearson Correlation Coefficient Among Variables

	DI	Pro	Liq	Lev	Eff	Siz	Aut	Con	Ene	Inf	Met	Phu	Ser
DI	1												
Pro	0.011	1											
Liq	0.077	0.093	1										
Lev	-0.114	-0.474**	-0.365***	1									
Eff	-0.004	0.655**	-0.201	-0.248*	1								
Siz	0.384**	0.186	0.091	-0.148	0.010	1							
Aut	-0.123	0.108	-0.067	-0.113	0.222	-0.037	1						
Con	-0.159	0.524**	-0.095	-0.135	0.525**	0.018	-0.130	1					
Ene	-0.053	-0.189	-0.101	0.128	-0.073	0.204	-0.179	-0.158	1				
Inf	-0.099	-0.201	-0.106	0.336**	-0.209	-0.040	-0.171	-0.151	-0.209	1			
Met	0.300**	-0.080	-0.114	-0.012	-0.140	0.127	-0.120	-0.106	-0.147	-0.140	1		
Phu	0.002	-0.012	0.170	-0.092	-0.086	-0.238*	-0.155	-0.137	-0.190	-0.181	-0.127	1	
Ser	0.152	-0.052	0.262*	-0.152	-0.147	-0.026	-0.187	-0.165	-0.228	-0.218	-0.153	-0.198	1

Note: \*\* Significant at  $p < 0.01$  \* Significant at  $p < 0.05$ .

### Multiple Regression Analysis Results

Table 7a presents the results of the multiple regression analysis based on the following regression model

$$Y_{VFRD} = \alpha + \beta_1 X_{Prof} + \beta_2 X_{liq} + \beta_3 X_{Lev} + \beta_4 X_{Eff} + \beta_5 X_{size} + \sum \beta_j X_j + \varepsilon$$

Table 7b reveals the summary of regression model. The adjusted  $R^2$  is 0.207 and  $F$ -value is 2.82, these values are significant for  $p < 0.005$ . The explanatory power of the regression model is  $R^2$ ; it means 20.7% of the variations in the voluntary financial ratio disclosure index is explained by the variations in the profitability, liquidity, leverage, efficiency and size of the company.

	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig. (p-value)	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	-0.69	0.262		-2.629	0.011		
Profitability	-0.001	0.002	-0.123	-0.753	0.454	0.386	2.594
Liquidity	0.006	0.028	0.024	0.201	0.841	0.698	1.432
Leverage	-0.004	0.03	-0.018	-0.138	0.890	0.604	1.656
Efficiency	0.042	0.024	0.268	1.714	0.091*	0.422	2.37
Size	0.096	0.026	0.416	3.667	0.000**	0.802	1.247
Auto	-0.154	0.092	-0.231	-1.675	0.099*	0.543	1.843
Consumption	-0.224	0.11	-0.305	-2.044	0.045*	0.461	2.168
Energy	-0.13	0.088	-0.223	-1.468	0.147	0.445	2.25
Infrastructure	-0.085	0.088	-0.143	-0.973	0.334	0.477	2.095
Metals	0.132	0.103	0.17	1.286	0.203	0.591	1.693
Services	0.021	0.08	0.037	0.26	0.796	0.508	1.97
Pharma	0.074	0.072	0.116	1.041	0.302	0.889	1.125

Note: \*\* Significant at  $p < 0.01$ ; \* Significant at  $p < 0.1$ .

$R^2$	0.320
Adjusted $R^2$	0.207
$F$ -Value	2.828
Significance	0.004

Table 7 reveals that four variables namely efficiency, size, auto industry and consumption industry have association with voluntary financial ratio disclosure index; thus rejecting rest eight variables namely, profitability, liquidity, leverage, energy industry, infrastructure industry, metals industry, services industry and pharma industry.

**$H_1 = Profitability$ :** The coefficient of profitability in our study is negative but insignificant. As per the study conducted by Belkaoui and Kahl (1978), there is negative association between voluntary disclosures and profitability. Conversely, Inchausti (1997) found no relationship between profitability and disclosure.

**$H_2 = Liquidity$ :** In the studies conducted by Watson *et al.* (2002) and Abdullah and Ismail (2008) liquidity is significant variable, means that high liquidity companies are more likely to disclose voluntary ratios. The coefficient of liquidity in our study is positive but insignificant, this is inconsistent with the studies carried by Watson *et al.* (2002) and Abdullah and Ismail (2008).

**$H_3 = Leverage$ :** The coefficient of leverage in our study is negative but insignificant. Chow and Wong-Boren (1987) found that leverage could not explain the magnitude of voluntary disclosure. Conversely, in certain studied leverage is found be a significant variable (Raffournier, 1995; and Courtis, 1996).

**$H_4 = Efficiency$ :** There is a positive association between efficiency and voluntary financial ratio disclosure at significance of  $p < 0.1$ . This indicates that at 10% level of significance, efficient companies are likely to voluntarily disclose more financial ratios than less efficient companies. Companies which operate with greater efficiency are the companies which perform the best. Going by the signaling theory, the managers of these efficient companies shall like to disclose more voluntarily. The previous studies carried by Watson *et al.* (2002) on UK companies and Abdullah and Ismail (2008) on Malaysian companies did not find the association of voluntary disclosure of financial ratios with the efficiency of the company.

**$H_5 = Size$ :** Of the causal variables, size is the most significant variable which influences the financial ratio disclosure for Indian companies. The  $\beta$  for size is 0.096 which is significant at  $p < 0.01$ . This indicates that there are higher chances of larger companies disclosing more financial ratios than the smaller ones. It is the size that is dominating the regression. A positive association of voluntary disclosures with size was found by Singhvi and Desai (1971), Cooke (1989), and Abdullah and Ismail (2008). There can be many possible reasons in support of size having positive association with disclosure. One for financing its operations the larger companies use capital markets more than the smaller companies, thus in order to convince public as well as institutions to invest, larger companies publish more information. Second, regulatory and government authorities keep close watch on larger companies more and also these companies attract greater attention from the public, and as a result they are likely to disclose more voluntary information. Third, the requirement for voluntary disclosure is an

efficient database of information with the company, larger companies will normally have extensive amount of information and thus these companies are more likely to use the information system for communication to stakeholders.

**$H_6$  = Industry classification (Automobiles industry and Consumption industry):** Within the industry classification, automobiles industry and consumption industry have negative but significant association with voluntary financial ratio disclosure; coefficient of  $-0.154$  for automobile indicates that automobile companies are less likely to voluntarily disclose financial ratios at 10% level of significance. Coefficient of  $-0.224$  for consumption companies indicates that these companies are less likely to disclose financial ratios voluntarily. Coefficient of  $-0.154$  for automobile indicates that automobile companies are less likely to voluntarily disclose financial ratios at 10% level of significance. Coefficient of  $-0.224$  for consumption companies indicates that these companies are less likely to disclose financial ratios voluntarily. Prior studies show that there are varied views on association between industry and voluntary disclosures. Cooke (1991) suggested that there may be historical and band wagon reasons why some industries disclose more than others and vice versa.

## CONCLUSION AND IMPLICATIONS

The above analysis of Indian CNX Nifty companies makes it sufficiently clear that the voluntary disclosure of financial ratio is low. The result from this research demonstrates that financial ratios disclosure is of little importance for the Indian corporate sector. Companies are on average disclosing 4 to 5 financial ratios voluntarily. On one hand there are 13 companies which did not disclose any ratio, whereas there is another company which voluntarily disclosed 18 ratios. The most common financial ratios disclosed are operating profit, EBITDA margin and return on capital employed. Growth ratios are the least disclosed ratios. It has also been found that there is general absence of a clear cut pattern or system of financial ratio disclosure in the annual reports. This may be due to absence of accounting standard, guidelines or pressure from the stakeholders.

Findings reveal that of the 12 variables: profitability, liquidity, leverage, efficiency, size, auto industry, consumption industry, energy industry, infrastructure industry, metals industry, services industry, and pharma industry, the magnitude of voluntary financial ratio disclosure is influenced by four variables namely, efficiency, size, auto industry, and consumption industry.

Findings suggest that there is a positive association between the size of the company and the magnitude of voluntary financial ratio disclosures. This is in line with the study by (Singhvi and Desai, 1971; Buzby, 1975; Cooke, 1989, Watson *et al.*, 2002; Alsaeed, 2006; Abdullah and Ismail, 2008; and Varghese, 2011). It was found that the size of the organization has a positive relationship with the extent of voluntary disclosures.



Efficiency is one of the performance measure which showed positive association with magnitude of voluntary financial ratio disclosure at 10% level. In India, efficient companies are disclosing financial ratio voluntarily, this is inconsistent with the studies on UK and Malaysian companies (Watson *et al.*, 2002; and Abdullah and Ismail, 2008).

It is noticed that Indian companies are lacking effort in using financial ratios to explain the financial statements in the annual reports. Financial ratios are considered as one of the most important tools of analysis, its inclusion in the annual report shall bring down information asymmetry. It's also been observed that there is variation in reporting ratios. Investors and analysts use ratios for comparability purposes, standardizing the method of calculating financial ratios will help them a great deal. While comparing companies across borders, one need to be careful as the accounting system and standards may differ for different items. This may be taken care of to larger extent when countries move towards standardized accounting standards.

Analysts and investors rely on various financial websites for ratios, these websites use different formulas for calculation purposes. Securities market regulator of India, SEBI needs to take a view on making selected ratios under each category mandatory, for better understanding and thus better investment decisions by stakeholders. Further, it should also prescribe standardized way of calculating these ratios for effective comparison.

Those who are preparing annual reports should match their magnitude of voluntary disclosure of financial ratios with their more transparent counterparts. Users of accounting information through annual reports shall benefit a great deal when they can compare these ratios across the same sector.

### LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FURTHER RESEARCH

Research is a continuous process, and one study leads to another. All studies have their own limitations and this study is no exception. The limitations of this study can be outlined as below:

- First, more evidence is needed on the determinants of disclosures of financial ratios voluntarily before any universality of the results can be made.
- Second, this study considers a single year and is based in India. Future research could seek to broaden the current sample to further investigate the nature and determinants in other countries.
- Third, only annual reports were considered for this study, there might be other means of communication in which organizations might be disclosing financial ratios, such as websites, initial public offering prospectus, employee handbook and brochures. Other researchers may carry out the study by considering these other means of communication.

- Fourth, a study is necessary to identify whether the voluntary financial ratio disclosures are improving over a period of time and identifying the reasons behind the same.
- Fifth, and finally, it will also be useful to find out why some particular financial ratios are disclosed when compared to others.

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VOLUNTARY DISCLOSURE OF FINANCIAL RATIOS IN INDIA

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