

# The Determinants of Financial Ratio Disclosures and Quality: Evidence from an Emerging market

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## Abstract

This study investigated the influence of firm-specific characteristics which include proportion of Non-Executive Directors, ownership concentration, firm size, profitability, debt equity ratio, liquidity and leverage on the extent and quality of financial ratios disclosed by firms listed on the Ghana Stock Exchange.

The research was conducted through detailed analysis of the 2012 financial statements of the listed firms. Descriptive analysis was performed to provide the background statistics of the variables examined. This was followed by regression analysis which forms the main data analysis. The results of the extent of financial ratio disclosure level, mean of 62.78%, indicate that most of the firms listed on the Ghana Stock Exchange did not overwhelmingly disclose such ratios in their annual reports. The results of the low quality of financial ratio disclosure mean of 6.64% indicate that the disclosures failed woefully to meet the International Accounting Standards Board's qualitative characteristics of relevance, reliability, comparability and understandability.

The results of the multiple regression analysis show that leverage (gearing ratio) and return on investment (dividend per share) are associated on a statistically significant level as far as the extent of financial ratio disclosure is concerned. Board ownership concentration and proportion of (independent) non-executive directors, on the other hand were found to be statistically associated with the quality of financial ratio disclosed. There is a significant negative relationship between ownership concentration and the quality of financial ratio disclosure. This means that under a higher level of ownership concentration less quality financial ratios are disclosed. The findings also show that there is a significant positive

relationship between board composition (proportion of non-executive directors) and the quality of financial ratio disclosure.

**Keywords:** Voluntary disclosure; Firm-specific characteristics; financial reporting; Financial ratio disclosure; Ghana Stock Exchange.

JEL CLASSIFICATION: G3, M1, M2, M4.

## 1. Introduction

This study extends the limited prior research on financial ratio disclosure by providing insights into the extent and quality of voluntary financial ratio disclosure in corporate financial reports.

This paper reports the empirical findings of a research directed to the investigation of factors that explain the extent and quality of financial ratios disclosed in corporate financial reports. This study provides evidence on financial ratio disclosures patterns in the annual reports of 28 firms listed on the Ghana Stock Exchange (GSE) for the 2012 financial year.

Financial reporting may be defined as communication of published financial statements and related information from a business enterprise to third parties (external users) including shareholders, creditors, customers, governmental authorities and the public. It is the reporting of accounting information of an entity (individual, firm, company, government enterprise) to a user or group users.

The objective of financial statements is to provide information about the financial position, performance and financial adaptability of an enterprise that is useful to a wide range of users in making economic decisions. The International Accounting Standards Board's (IASB) IFRS Framework states that; "*The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decisions*", (IASB 2010).

Another basic objective of financial reporting is to provide information on management accountability to judge management's effectiveness in utilizing the resources provided by shareholders in the running of the enterprise.

Since the users of the financial statements don't have access to the accounting records, they rely solely on the information disclosed in the financial statements to make informed decisions. Disclosure in the view of, Ho & Wong, (2001) is the best vehicle for communicating with investors. Therefore, adequate disclosure of financial and non-financial information is essential if users are to judge properly the opportunities and risks of investing in the company.

One of the means used to disclose financial information in the annual financial reports of companies is the use of financial ratios. The disclosure of financial ratios in the annual reports helps users in several ways.

- Financial ratio disclosures can enhance the understanding of stakeholders by providing them with a quick and simple tool highlighting firms' performance. Assessment of firm performance can be further enhanced if the ratio data is presented using graphs or tables that depict changes over time. Courtis,(1996).

- Communicating financial ratio information can provide users of financial statements with new information that is not comprehensively presented in any single media, Watson et al. (2002). This information is likely to be even more meaningful for non-sophisticated users in evaluating and making informed investment decisions.
- Ratios allow comparison with peers through inter-firm comparison schemes and comparison with industry averages so that possible strengths and weaknesses can be identified. Elliot, B. and Elliot, J (2013).
- According to Elliot, B. and Elliot, J (2013, p.704) “accounting ratios enable the comparison of entities of different sizes. For example, it is very difficult to compare the absolute profits of two entities without an appreciation of how ‘large’ one entity is relative to another”.

Regulation is the most effective way to ensure that firms disclose sufficient information but currently there is only one regulation,(IAS 33) that compels firms to provide Earnings per Share (EPS) ratios as part of their reporting requirements. Though there is no regulation (financial reporting standard) that compels firms to disclose financial ratios in their annual reports, firms voluntarily do so. Even though users of these annual reports tend to benefit from adequate financial ratio disclosures, the extensiveness and quality of the ratios disclosed tend to be questionable. The question that can be asked therefore is; what is the motivation behind such voluntary disclosures? The study therefore seeks to answer the following questions:

1. What is the extent of disclosures of financial ratio information in the annual reports of firms listed on the GSE?
2. What is the quality of disclosures of financial ratio information in the annual reports of firms listed on the GSE?
3. What are the significant predictors influencing the extent of financial ratio disclosures in the annual reports of firms listed on the GSE?
4. What are the significant predictors influencing the quality of financial ratio disclosures in the annual reports of firms listed on the GSE?

## **2. Empirical Studies on the Voluntary Disclosure of Accounting Ratios and Development of Hypotheses**

There are several theoretical frameworks that underpin the disclosure literature according to Palmer (2006). The two main recurring theoretical explanations given in the literature are agency theory and political costs. (Beattie 2005) cited in Palmer (2006) suggests that positive accounting theorists have sought to move on from explaining accounting policy choices to explaining voluntary disclosure choices, and many of the theoretical explanations for the relationship between the level of disclosure of financial information and corporate characteristics are grounded in positive accounting theory.

Researchers like (Meckling, 1976; Firth, 1980; Chow & Wong-Boren, 1987; Hossain *et. al.* 1996) have argued that agency theory may explain why managers voluntarily disclose information. Managers knowing that shareholders will seek to control their behavior through bonding and monitoring activities voluntarily disclose certain information to

convince the shareholders that they are acting optimally.

According to Watson, et. al., (2002, p.291) “The disclosure of ratios in company accounts may provide users of financial statements with new information not calculated elsewhere, or may simply provide information available elsewhere in the same or different form.”

Ross (1979) argued that firms extensively disclosed additional (voluntary) information because of signaling theory. Under the signaling theory, developed by Spencer (1973), financial reporting is said to stem from management's desire to disclose its superior performance where, good performance will enhance the management's reputation and position in the market for management services, and good reporting is considered as one aspect of good performance.

In supporting the fact that signaling theory can explain accounting ratio disclosure, Watson, A. et.al., (2002, p. 292) stated that , “if signaling theory can explain ratio disclosure, then it would be expected that certain company attributes would be associated with disclosure. Thus investment, profitability and efficiency ratios may be disclosed by those companies wishing to highlight certain aspects of their performance.”

Lundholm and Winkle (2006) discuss the motivation for disclosure and state that voluntary disclosure can be utilized to reduce the information asymmetry problems. They argue that conflicts arise when managers make decisions either to disclose or not disclose certain information and this often occurs because of the information asymmetry problem. In relation to this view, it is believed that by investigating the communication of financial ratios in the annual reports, the management choice of reporting/not reporting certain financial ratios could be explained.

The International Accounting Standards Board (IASB 2010) *Framework for the Preparation and Presentation of Financial Statements* states that there are some qualitative characteristics that make the information provided in financial statements useful to users. These qualitative characteristics are relevance, faithful representation, comparability and understandability. According to the (IASB 2010) relevance and faithful representation are the fundamental qualities, whilst comparability and understandability are enhancing qualities.

Accounting information has the quality of relevance when it makes a difference in a business decision; it provides information that has predictive value and has confirmatory value (IASB 2010).

Accounting information has the quality of faithful representation when it accurately depicts what really happened; nothing important has been omitted (i.e. complete); and is not biased toward one position or another (i.e. neutral) (IASB 2010).

An enhancing quality of the information provided in financial statements is that it should be presented in such a way that it is readily understandable by users, i.e. it should be presented in a clear and concise fashion (IASB 2010). Understandability is the quality of information that enables users to perceive its significance. The benefits of information may be increased by making it more understandable and hence useful to a wider circle of users. Presenting information which can be understood only by sophisticated users and not by others creates a bias which is inconsistent with the standard of adequate disclosure. Presentation of Information should not only facilitate understanding, but also avoid wrong interpretation of

financial statements. Preparers of financial statements compute accounting ratios to enable users understand the reports.

Another enhancing quality of accounting information is that of comparability. Users must be able to compare the financial statements of an enterprise over time to identify trends in its financial position and performance. Users must also be able to compare the financial statements of different enterprises to evaluate their relative financial position, performance and financial adaptability. Consistency is therefore required, (IASB 2010). Comparable financial accounting information, presents similarities and differences that arise from basic similarities and differences in the enterprise or enterprises and their transaction, and not merely from difference in financial accounting treatment. Information, if comparable, will assist the decision-maker to determine relative financial strengths and weaknesses and prospects for the future, between two or more firms or between periods in a single firm. Accounting ratios at this point is used to make the comparison easy for users of the financial report. *This study advocates that if financial ratio information has been provided to stakeholders that has met the qualitative characteristics of relevance, reliability, comparability and understandability, it is assumed that such information is 'quality' in nature. The degree to which information has met each of the four qualitative characteristics will in turn determine the extent to which that information has been provided in a quality manner.*

To be able to meet the needs of the users, the financial statements must not only compute and disclose financial ratios, but the disclosures should be of high quality. Hence the quality of the disclosures is measured using the IASB's Framework.

## **2.2 Hypothesis Development**

### **2.2.1 Firm size:**

Several studies have indicated that firm size has a strong influence on financial ratio disclosures. It has been argued that large firms, as compared to smaller firms, will be more motivated to disclose more voluntary information than small ones. Studies that have established an association between firm size and the level of disclosure include; (Inchausti, 1997; Owusu-Ansah, 1998; Ashbaugh, 2001; Alsaeed, 2006) Barako et al. (2006) studied the factors influencing voluntary corporate disclosure by Kenyan companies and found that size is one of the factors that encourage firm to disclose more information. Cinca, et al. (2005) investigated the county and size effects in financial ratios from a European perspective. Using 16 financial ratios, they suggested significant differences between sizes (small, medium and large firms) mostly in all ratios, except for profitability ratio. From the literature reviewed the following hypotheses will be tested:

***H1a:*** *The extent of financial ratio disclosures is positively associated with firm size.*

***H1b:*** *The quality of financial ratio disclosures is positively associated with firm size.*

### **2.2.2 Firm profitability and return on investment:**

*Profitability and return on investment are measures of firm performance.* Agyei-Mensah (2012) found that there is a positive correlation between profitability and level of disclosure

of rural banks in the Ashanti Region of Ghana. In their earlier study, Singhvi and Desai (1971) found a positive relationship between profitability and return on investment and the quality of disclosure. Inchausti (1997), however, found no evidence of relationship between disclosure and profitability in her study of Spanish firms.

*Signaling theory suggest that firms with good performance will wish to signal their quality to investors, hence are more likely to disclose their performance using financial ratios, according to Watson et al., (2002). According to (Alsaeed, 2006) management of profitable firms may wish to disclose more information to the public to promote a positive impression. Financial ratios may be one form of such disclosures.*

*Agency theory also suggests a possible relationship between financial ratio disclosure and profitability. Inchausti, (1997) found that managers of very profitable firms will disclose more information, such as financial ratios, in order to support compensation arrangements and the continuance of their positions.*

*In order to investigate the relationship between profitability and return on investment and extent and quality of financial ratio disclosure, the following hypotheses will be tested:*

*H2a: The extent of financial ratio disclosure is positively associated with return on capital employed.*

*H2b: The quality of financial ratio disclosure is positively associated with return on capital employed.*

*H3a: The extent of financial ratio disclosure is positively associated with return on investment*

*H3b: The quality of financial ratio disclosure is positively associated with return on investment.*

*H4a: The extent of financial ratio disclosure is positively associated with return on assets.*

*H4b: The quality of financial ratio disclosure is positively associated with return on assets.*

### 2.2.3 Liquidity

Liquidity ratios are used to assess how well place a firm is to pay off its short-term debt obligations. In general, the greater the coverage of liquid assets to short-term liabilities the better as it is a clear signal that a company can pay its debts that are coming due in the near future and its ongoing operations. On the other hand, a company with a low coverage rate should raise a red flag for investors as it may be a sign that the company will have difficulty meeting running its operations, as well as meeting its obligations. It is therefore possible that firms in a secure financial position will wish to signal this to investors by way of disclosure. Financial ratios may be on form of such disclosures. Cooke (1989) argued that the soundness of the firm as portrayed by high liquidity is associated with greater disclosure level. Belkaoui-Raihi (1978) found no relationship between liquidity and disclosure level, Wallace et al. (1994) on the other hand found a significant negative association between liquidity and disclosure level for unlisted Spanish companies. From the foregoing the

following hypotheses will be tested:

*H5a: The extent of financial ratio disclosure is positively associated with liquidity of the firm.*

*H5b: The quality of financial ratio disclosure is positively associated with the liquidity of the firm.*

#### 2.2.4 Leverage

Agency theory argues that the presence of other stakeholders, such as bondholders ameliorate the agency conflict. Their presence leads to divergent interest between contracting parties. It is suggested that debt covenants and voluntary management disclosure practices may reduce conflicts. Barako (2004) finds that highly leveraged companies tend to disclose more information. This is likely to be driven by the firm's capital provider which may require a minimum level of disclosure in order to meet debt covenant requirements. In contrast, Eng and Mak (2003) finding suggests that companies with lower leverage have higher voluntary disclosures. However, some studies (Hossain *et al.* 1994; McKinnon and Dalimunthe 1993) report insignificant relationship between leverage and the extent of firm disclosure. Chow and Wong-Boren (1987) assert that leverage offers no explanation for voluntary disclosure. In a recent study, Taylor *et al.* (2008) hypothesized leverage is an important determinant of financial instruments disclosure policy. They argue that firms engaging with debt capital transactions are subject to supervisory action and must comply with debt covenants. Ultimately, these firms will be more motivated to disclose financial instrument information.

Specifically related to the financial ratio disclosures practices, Watson *et al.* (2002) find that companies with higher leverage are more likely to disclose financial ratios. Using agency theory, they argue when firms engage in borrowing, agency costs are likely to increase because of the divergent interest between creditors and management. Consequently, debt covenants are executed to monitor managerial behavior. In order to reduce the monitoring cost, managers may communicate the relevant information voluntarily in their financial statements. In addition, Mitchell (2006) argues the reporting of various financial ratios provides a signal that the firm is not breaching debt covenants and is well positioned financially. Enhanced disclosure also leads to a reduction in interest costs and provides better predictions about future risk and return prospects. Thus, leverage is included in the statistical model to provide further insights of financial ratio disclosures.

Several studies have examined the association between the debt equity ratio and the level of disclosure (Malone *et al.*, 1993; Hossain *et al.*, 1994; Ahmed and Nicolls, 1994; Jaggi & Low, 2000). These studies found a positive relationship between the debt equity and the level of disclosure. Firms with high debt equity may have more incentives to disclose more financial information to suit the needs of their creditors. Such firms are therefore expected to be monitored more by financial institutions which drive them to disclose more than firms with low debt equity. From the above the following hypothesis will be tested:

*H6a: The extent of financial ratio disclosure is positively associated with the leverage of the firm.*

*H6b: The quality of financial ratio disclosure is positively associated with the leverage of the firm.*

### 2.2.5 Board Ownership Concentration

It is expected that ownership concentration will influence the extent of voluntary disclosure of financial ratio as well as its quality. Akhtaruddin and Haron (2012) studied the effect of ownership concentration on voluntary disclosure and found that ownership concentration reflects the influence of the majority shareholders. In their study conducted earlier on, Chau and Gray (2002) indicated that wider ownership is positively related to voluntary disclosure. The above reviewed literature leads to the following hypotheses:

*H7a: The extent of financial ratio disclosures is positively associated with a higher ownership concentration.*

*H7b: The quality of financial ratio disclosures is positively associated with a higher ownership concentration.*

### 2.2.6 Proportion of Non-Executive Directors

Non-executive directors are members of companies' boards who are not employed by the firm. They are there to act as a control mechanism as they perform an independent monitoring function.

According to Al-Ajmi (2008) financial ratios provide useful quantitative financial information to both investors and analysts who use them to evaluate the operation of a firm and to analyze its position within an industry or sector over time. The usefulness of these ratios largely depends on the integrity of financial statements, which in turn relies on firms' corporate governance practices. Governance practices play a role in reducing information asymmetry as well as influence both a firm's creditworthiness and value. Cheng and Courtenay (2006) found that firms with a higher proportion of non-executive directors have significantly higher levels of voluntary disclosure than firms with balanced boards.

Gul and Leung (2004) argue that board structure may influence the quality of financial reporting because the board of directors is involved in corporate disclosure policies decision making. Further, Habib and Azim (2008) investigate the relationship between corporate governance and value-relevance of accounting information in Australia. Their result reveals that good corporate governance mechanisms increase the provision of value relevance of accounting information. The adoption of good corporate governance practices appears to enhance the provision of quality accounting information. These results support the notion that governance plays a key role in enhancing quality financial reporting.

Consistent with the literature reviewed, it is expected that the extent and quality of financial ratio information disclosed will be positively related to the proportion of the independent directors on the board (board composition). Therefore, the following hypotheses are proposed:

*H8a: The extent of financial ratio disclosures is positively associated with the proportion of independent directors on the board. (Board composition)*

*H8b: The quality of financial ratio disclosures is positively associated with the proportion of independent directors on the board.*



### 3. Research Method

To establish the financial ratio disclosure practices the 2012 annual reports of all the 35 listed firms on the Ghana Stock Exchange were examined and the ratios displayed noted. Ratios, which had to be disclosed following an accounting standard (IAS 33), were ignored.

#### 3.1 Sample

The population of the study includes all the 35 firms listed on the Ghana Stock Exchange at the end of 2012. However, the sample of the study includes the firms that meet the following criteria:

- The firm should have been listed on the GSE for, at least, five years prior to the study.
- Firms with unavailable data were excluded.

Applying these criteria resulted in a sample of 28 firms.

#### 3.2 Dependent variable measure

There are two dependent variables for this study, the Extent of Financial Ratio Disclosure (EFRD) and the Quality of Financial Ratio Disclosure (QFRD).

In order to measure the EFRD, a financial ratio disclosure index developed by (Aripin et al. 2009) was used. For the purpose of testing the hypotheses (detailed above) a dichotomous measure of ratio disclosure was used, where companies were categorized either as ratio disclosures or non-disclosures.

The financial ratios used are categorized into five major categories as advocated by Mitchell (2006). These meta-categories are Share Market Measures, Profitability, Capital Structure, Liquidity and Other Miscellaneous. Earnings per share (EPS) ratio is excluded since it is the only financial ratio mandated by the IASB (IAS 33). Each voluntary ratio is dichotomously scored as being disclosed (1) if present in the annual report for each company and (0) otherwise. The EFRD score is computed by summing up all items disclosed divided by the maximum number as determine by the literature. The EFRD score is mathematically represented as follows:

The disclosure index can be mathematically shown as follows;

$$EFRD = TED/M = \frac{\sum_1^m di}{\sum_1^n di}$$

$$\sum_1^n di$$

where:

EFRD = Total Extent of Disclosure Index

TED = Total Extent of Disclosure Score

M = Maximum disclosure score for each company

di = Disclosure item i

$m$  = Actual number of relevant disclosure items ( $m \leq n$ )

$n$  = Number of items expected to be disclosed.

The Quality of Financial Ratio Disclosure (QFRD) Index measures the quality of financial ratio disclosure using the qualitative characteristics of financial information as advocated by the IASB theoretical framework. The quality index developed by (Aripin et al. 2009) are used for this study to test the quality of financial ratio disclosure. The quality-oriented template comprises the IASB's four elements of qualitative characteristics which are relevancy, reliability, comparability and understandability

To construct the QFRD, three items of qualitative information are derived for each of the four qualitative characteristics. They are:

- 1) Relevance- prediction, confirmation, timeliness;
- 2) Reliability- verifiability, faithful representation, expertise;
- 3) Comparability- temporal, target benchmark, industry consistency; and
- 4) Understandability- presentation, location, explanation

Table 1, below shows the matrix of qualitative characteristics for the quality of financial ratio disclosure.

**Table 1: Matrix of Qualitative Characteristics for QFRD Construction**

<b>Relevance</b>	<b>Reliability</b>	<b>Comparability</b>	<b>Understandability</b>
Prediction: Ratios are used to predict the company's future prospects	Verifiability: Completely independent audit conducted	Temporal: Direct comparison of ratio between 2 consecutive years	Presentation: Ratios are presented using graphs/ table/ diagram
Confirmation: Ratios are used to confirm performance targets	Faithful Representation: Auditor's report qualification	Target Benchmark: Comparison of ratios within target benchmark	Location: Ratios are located in Financial Highlights section/ any composition of Directors Report
Timeliness: Number of days annual report is audited from year end	Expertise: % financial expertise on audit committee	Industry Consistency: Consistently exceeds industry ratio disclosure	Explanation: Explanation/ elaboration/ discussion of ratios

Source: Adapted from (Aripin et al. 2009)

Each ratio disclosed is dichotomously scored as: one (1) if met each criterion or otherwise zero (0) otherwise. A QFRD score is then computed by summing all items disclosure quality divided by maximum score of quality which in this case is 12. A QFRD score is calculated for each firm.

The disclosure index can be mathematically shown as follows;

$$QFRD = TDQ/M = \sum_1^m di$$

$$\sum_1^n di$$

where:

QFRD = Total Quality Disclosure Index

TD = Total Quality Disclosure Score

M = Maximum disclosure score for each company

di = Disclosure item i

m = Actual number of relevant disclosure items ( $m \leq n$ )

n = Number of items expected to be disclosed

The multivariate test used to test the hypotheses is the standard multiple regression analysis and the regression model is:

$$EFRDI = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + e \quad \dots\dots(1)$$

$$QFRDI = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + e \quad \dots\dots(2)$$

Where:

EFRDI=Extent of Financial Ratio Disclosures Index.

QFRDI= Quality of Financial Ratio Disclosure Index.

a = constant (the intercept).

X1 = Firm size measured by net assets.

X2 = Return on Capital Employed (ROCE)- Earnings before interest and tax divided by net assets.

X3 = Current ratio (measured by the ratio of current assets to current liabilities)

X4 = Return on assets (ROA) – (ratio of net profit to total assets).

X5 = Leverage (ratio of total debt to total assets).

X6 = Return on investment (measured by dividend per share).

X7 = Ownership Concentration (total shareholding of top 20 shareholders/ the total number of shares issued)

X8 = Board composition ( the proportion of independent directors on the board).

e = error term.

### 3.3 Independent variables measure

To examine the extent and the quality of financial ratio disclosures in the annual report, the following independent variables are tested:

1. Firm size measured by net assets.

2. Return on Capital Employed (ROCE)- Earnings before interest and tax divided by net

assets).

3. Current ratio (measured by the ratio of current assets to current liabilities)
4. Leverage (ratio of total debt to total assets).
5. Return on assets (ROA) – ratio of net profit to total assets
6. Return on investment (measured by dividend per share).
7. Ownership Concentration (total shareholding of top 20 shareholders/ the total number of shares issued)
8. Board composition ( the proportion of independent directors on the board).

## 4. Results

### 4.1 Descriptive Statistics

The descriptive statistics for the variables are presented in Table 2. The first dependent variable, EFRD has a mean of 62.78% with a standard deviation of 8.13%. This level of disclosure is higher than the 9.2% reported by Aripin, Tower and Taylor (2009). A minimum score for the EFRD is 50% and the maximum extent of financial ratios disclosed of 75%. QFRD measures the quality of financial ratio disclosures. The minimum quality for financial ratio disclosure is 2%, the mean score for this variable is 6.6% with standard deviation of 6.1%, with the maximum being 32% The quality of disclosure is lower than 32.2% reported by Aripin, Tower and Taylor (2009). The board composition (BODCOMP) mean score is 66.75 with a standard deviation of 11.37. Average OCS (Top20 shareholding) is 84.2% with standard deviation of 10.5%.

**Table 2. Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
NET ASSETS	28	4,449.00	9,381,800.00	1,157,623.54	2,035,039.35
ROCE	28	-8.0	33.0	7.393	8.4518
CUR	28	.3	16.9	2.787	3.9521
TD/TA	28	.1	2.8	.807	.5242
ROA	28	-8.0	33.0	7.243	9.0626
<b>EFRD</b>	28	50.0	75.0	62.786	8.1393
<b>QFRD</b>	28	2.0	32.0	6.643	6.1114
DIV/SHAR	28	0.0	1.3	.169	.2754
OCS	28	56.6	97.1	84.222	10.5312
BODCOM	28	50.0	86.0	66.750	11.3713
Valid N (listwise)	28				

#### 4.2 Univariate analysis

Before running the regression analysis there was the need to verify the correlation between the variables. Table 4. reports on the Spearman's rho correlation indices for all the test variables. The Spearman's rho is very commonly used by researchers. This has been used because of the small sample size and the Spearman's rho will help in getting a clear result. It has been suggested by Bryman and Cramer (2007) that Spearman's rho is a powerful non-parametric method dealing with data, which means they can be used in a wide variety of contexts since they make fewer assumptions about variables.

The analysis shows that Return on capital employed (ROCE) has a significant relationship with Net Assets at 5% level ( $p=0.020$ ). Return on capital employed (ROCE) also has a significant relationship with Leverage (Total debts/ Total Assets) at 5% level ( $p=0.000$ ). ROCE also has a significant relationship with return on assets (ROA) at 1% level ( $p=0.000$ ). ROCE also has a significant relationship with Dividend per share (DIV/SHAR) at 5% level ( $p= 0.000$ ). Finally, ROA also has a significant relationship with current ratio (CUR) at 5% level ( $p=0.012$ ). The other variables do not seem to have significant relationship among each other. These results indicate the need to pay attention to possible multi-co linearity problem in the regression analysis.

**Table 3. Spearman's rho Correlations**

		NET ASSETS	ROCE	CUR	TD/T A	RO A	EFR D	QFR D	DIV/ SHA R	OC	BODC OM
NET ASSETS	Correlation Coefficient	1.000	-.437*	-.010	.333	-.219	-.063	.053	.344	.009	-.111
	Sig. (2-tailed)	-	.020	.961	.084	.263	.750	.787	.073	.962	.574
	N	28	28	28	28	28	28	28	28	28	28
ROCE	Correlation Coefficient	-.437*	1.000	.165	-.416*	.739**	.122	.138	.426*	.006	-.172
	Sig. (2-tailed)	.020	-	.401	.028	.000	.537	.484	.024	.977	.382

	N	28	28	28	28	28	28	28	28	28	28
CUR	Correlation Coefficient	-.010	.165	1.000	-.137	.467*	-.076	.008	.112	.008	-.073
	Sig. (2-tailed)	.961	.401	-	.487	.012	.702	.969	.570	.969	.714
	N	28	28	28	28	28	28	28	28	28	28
TD/TA	Correlation Coefficient	.333	-.416*	-.137	1.000	-.183	.369	-.114	.023	-.196	-.002
	Sig. (2-tailed)	.084	.028	.487	-	.350	.054	.563	.909	.318	.992
	N	28	28	28	28	28	28	28	28	28	28
ROA	Correlation Coefficient	-.219	.739**	.467*	-.183	1.000	.010	.072	.301	-.038	-.223
	Sig. (2-tailed)	.263	.000	.012	.350	-	.959	.717	.120	.848	.253
	N	28	28	28	28	28	28	28	28	28	28
EFRD	Correlation Coefficient	-.063	.122	-.076	.369	.010	1.000	.150	.300	.058	-.033
	Sig. (2-tailed)	.750	.537	.702	.054	.959	-	.445	.121	.771	.868
	N	28	28	28	28	28	28	28	28	28	28
QFRD	Correlation Coefficient	.053	.138	.008	-.114	.072	.150	1.000	.132	-.038	.037

	ent										
	Sig. (2-tailed )	.787	.484	.969	.563	.717	.445	-	.503	.202	.102
	N	28	28	28	28	28	28	28	28	28	28
DIV/SH AR	Correlati on Coeffici ent	.344	.426*	.112	.023	.301	.300	.132	1.000	-.042	-.061
	Sig. (2-tailed )	.073	.024	.570	.909	.120	.121	.503	-	.833	.757
	N	28	28	28	28	28	28	28	28	28	28
OC	Correlati on Coeffici ent	.009	.006	.008	-.196	-.038	.058	-.038	-.042	1.000	-.251
	Sig. (2-tailed )	.962	.977	.969	.318	.848	.771	.202	.833	-	.198
	N	28	28	28	28	28	28	28	28	28	28
BODCO M	Correlati on Coeffici ent	-.111	-.172	-.073	-.002	-.223	-.033	.037	-.061	-.251	1.000
	Sig. (2-tailed )	.574	.382	.714	.992	.253	.868	.102	.757	.198	-
	N	28	28	28	28	28	28	28	28	28	28

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

A regression analysis was performed on the dependent and independent variables to check on the existence of the multi-co linearity and serial or autocorrelation problems. In a multiple regression model, multicollinearity exists when two independent variables are perfectly correlated with each other. Drury (2007, p.1046) sums up the multicollinearity in multiple

regression analysis as follows:

*"Multiple regression analysis is based on the assumption that the independent variables are not correlated with each other. When the independent variables are highly correlated with each other, it is very difficult, and sometimes impossible, to separate the effects of each of these variables on the dependent variable. This occurs when there is a simultaneous movement of two or more independent variables in the same direction and at approximately the same rate".*

Methods for correcting multicollinearity include computing variable inflation factor (VIF), dropping one or more of the independent variables from the model or enlarging the sample size. Since it is not possible to increase the sample size at this stage of the research, the first two methods were adopted. As a rule of thumb a variable inflation factor (VIF) in excess of 5 is considered an indication of harmful multi-co linearity, Zikmund et al. (2010, p588). All the VIF (Table 4) are less than 5 and the average VIF is 1.5716 therefore it can be said that there is no multi-co linearity problem for the model. The results of the regression analysis can therefore be interpreted with a greater degree of confidence.

The Durbin -Watson statistic was also used to test for autocorrelation. The Durbin-Watson value of 1.283 (Table 5) indicates that the data has no serial correlation or autocorrelation problem.

**Table 4. Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	34.202	19.817		1.726	.101		
FIRM SIZE	-4.673E-07	.000	-.117	-.556	.584	.791	1.264
RETURN ON CAPITAL EMPLOYED	.279	.402	.289	.693	.497	.200	3.002
CURRENT RATIO	.130	.473	.063	.274	.787	.661	1.513
DEBT RATIO	6.394	3.198	.412	1.999	.060	.822	1.216
RETURN ON ASSETS	-.221	.376	-.246	-.589	.563	.199	2.022



RETURN ON INVESTMENT	11.575	6.027	.392	1.920	.070	.839	1.192
OWNERSHIP CONCENTRATION	.139	.156	.180	.891	.384	.852	1.173
NON EXECUTIVE DIRECTORS	.142	.146	.198	.970	.344	.840	1.191

a. Dependent Variable: EXTENT OF FINANCIAL RATIO DISCLOSURE

**Table 5. Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.581 <sup>a</sup>	.337	.058	7.8991	1.689

a. Predictors: (Constant), NON EXECUTIVE DIRECTORS, LIQUIDITY, FIRM SIZE, LEVERAGE, RETURN ON INVESTMENT, OWNERSHIP CONCENTRATION, DEBT RATIO, PROFITABILITY

b. Dependent Variable: EXTENT OF FINANCIAL RATIO DISCLOSURE

#### *4.2 Extent of financial ratio disclosure*

Overall, the sampled firms show a moderate level of financial ratio disclosure in their annual reports. The level of financial ratio disclosure ranges between 50% and 75% with an average of 60% (SD = 8.13). This level of disclosure is higher than the 9.2% reported by Aripin, Tower and Taylor (2009).

Table 6 shows a negative relationship between firm size and level of financial ratio disclosure, ( $\beta = -.117$ ) but statistically insignificant at .05 level ( $p = .584$ ). Therefore Hypothesis 1a is not supported. This is at variance with what researchers like; (Inchausti, 1997; Owusu-Ansah, 1998; Ashbaugh, 2001; Alsaed, 2006; Barako et al. (2006) found that firm size is positively associated with voluntary disclosure in financial reports.

Table 6 shows a positive relationship between profitability, represented by ROCE and extent of financial ratio disclosure, ( $\beta = .289$ ). However, statistically, it is insignificant ( $p = .497$ ). Thus hypothesis H2a is not supported.

Return on investment represented by dividend per share also have a significant positive

relationship with the extent of financial ratio disclosure ( $\beta=1.920$ ,  $p=.070$ ). Hence hypothesis H3a is accepted. This finding is consistent with Singhvi & Desai's (1971) study which found a significant positive relationship between profitability and return on investment and quality of disclosure.

Table 6 also shows a negative relationship between return on assets ( $\beta=-.246$ ) and the extent of financial ratio disclosure but statistically insignificant ( $p=.563$ ). Thus hypothesis H4a is not supported, hence rejected.

Table 6 also shows a positive relationship between liquidity, represented by current ratio and the extent of financial ratio disclosure ( $\beta=.063$ ), but statistically insignificant ( $p=.787$ ). Thus hypothesis H5a is not supported, hence rejected. This finding is consistent with Belkaoui&Kahl (1978) who found an insignificant positive relationship between liquidity and disclosure.

The findings also show that there is a significant positive relationship between leverage (debt ratio) and the extent of financial ratio disclosure ( $\beta=.412$ ,  $p=.060$ ). Thus hypothesis H6a is accepted. This is inconsistent with Belkaoui&Kahl's (1978) findings which showed a negative relationship between financial leverage and disclosure.

The two board composition ratios, ownership concentration ( $\beta=.891$ ,  $p=.384$ ), and proportion of non-executive directors ( $\beta=.970$ ,  $p=.344$ ), though have positive relationships with the extent of financial ratio disclosure they are not significant. Hence hypotheses H7a and H8a are not supported and therefore rejected.

**Table 6. Regression results EFRD**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	34.202	19.817		1.726	.101		
FIRM SIZE	-4.673E-07	.000	-.117	-.556	.584	.791	1.264
RETURN ON CAPITAL EMPLOYED	.279	.402	.289	.693	.497	.200	3.002
CURRENT RATIO	.130	.473	.063	.274	.787	.661	1.513
DEBT RATIO	6.394	3.198	.412	1.999	.060	.822	1.216
RETURN ON ASSETS	-.221	.376	-.246	-.589	.563	.199	2.022

RETURN ON INVESTMENT	11.575	6.027	.392	1.920	.070	.839	1.192
OWNERSHIP CONCENTRATION	.139	.156	.180	.891	.384	.852	1.173
NON EXECUTIVE DIRECTORS	.142	.146	.198	.970	.344	.840	1.191

a. Dependent Variable: EXTENT OF FINANCIAL RATIO DISCLOSURE

#### 4.3 Quality of financial ratio disclosure

QFRD measured the quality of financial ratio disclosures. The minimum quality for financial ratio disclosure is 2%, the mean score for this variable is 6.6% with standard deviation of 6.1%, with the maximum being 32% The quality of disclosure is lower than 32.2% reported by Aripin, Tower and Taylor (2009).

Table 7 shows a positive relationship between firm size and quality of financial ratio disclosure, ( $\beta = .165$ ) but statistically insignificant at .05 level ( $p = .463$ ). Therefore Hypothesis 1b is not supported, hence rejected.

Table 7 shows a positive relationship between profitability, represented by ROCE and the quality of financial ratio disclosure, ( $\beta = .404$ ). However, statistically, it is insignificant ( $p = .368$ ). Thus hypothesis 2b is not supported, hence rejected. Return on investment represented by dividend per share also have a positive relationship with the quality of financial ratio disclosure ( $\beta = .163$ ) but statistically insignificant ( $p = .455$ ). Hence hypothesis H3b is not supported hence rejected. These findings support Inchausti (1997) who found no relationship between disclosure and profitability. These findings are however inconsistent with Gray & Robert (1989) and Singhvi & Desai (1971) who found a positive relationship between profitability and return on investment

Return on Assets (ROA) has a negative relationship ( $\beta = -.350$ ) with the quality of financial ratio disclosure, but statistically insignificant ( $p = .436$ ). Thus hypothesis H4b is not supported, hence rejected.

Table 7 also shows a positive relationship between liquidity, represented by current ratio and the quality of financial ratio disclosure ( $\beta = .116$ ), but statistically insignificant ( $p = .636$ ). Thus hypothesis 5b is not supported, hence rejected.

The findings also show that there is a positive relationship between leverage (debt ratio) ( $\beta = .044$ ) and the quality of financial ratio disclosure, but statistically insignificant ( $p = .842$ ). Thus hypothesis 6b is not supported, hence rejected.

The findings (Table 7) show that there is a significant negative relationship between ownership concentration and the quality of financial ratio disclosure ( $\beta = -.254$ ,  $p = .017$ ). Thus hypothesis 7b is not supported and rejected. This means that under a higher level of ownership concentration less quality financial ratios are disclosed. This finding is in line with what other empirical studies (e.g., Sartawi, et. al. 2014; Jahmani, 2013; Chakroun, 2013;

Lakhal, 2007; Aripin, N., et. al., 2009). This thus supports (Bangho&Plenborg, 2008) argument that the presence of large shareholders encourages "information retention", since they can rely on internal sources to obtain information.

The findings also show that there is a significant positive relationship between board composition (proportion of non-executive directors) and the quality of financial ratio disclosure ( $\beta=.246$ ,  $p=.024$ ). Thus hypothesis H8b is accepted. This finding is consistent with what Aripin, N., et. al., (2009) found in their research. According to Aripin, N., et. al., (2009) the higher proportion of independent directors on the board may mitigate the agency problem through voluntary financial reporting, in this case financial ratio disclosures. The adoption of good corporate governance practices appears to enhance the provision of quality accounting information. These results support the notion that governance plays a key role in enhancing quality financial reporting.

Table 7. Regression results for QFRD

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	7.663	15.636		.490	.630		
FIRM SIZE	4.968E-07	.000	.165	.750	.463	.791	1.264
RETURN ON CAPITAL EMPLOYED	.292	.317	.404	.921	.368	.200	2.002
CURRENT RATIO	.179	.373	.116	.480	.636	.661	1.513
DEBT RATIO	.509	2.523	.044	.202	.842	.822	1.216
RETURN ON ASSETS	-.236	.297	-.350	-.795	.436	.199	1.022
RETURN ON INVESTMENT	3.628	4.755	.163	.763	.455	.839	1.192
OWNERSHIP CONCENTRATION	.147	.123	-.254	-1.194	.017	.852	1.173
NON EXECUTIVE DIRECTORS	.132	.115	.246	1.150	.024	.840	1.191

a. Dependent Variable: QUALITY OF FINANCIAL RATIO DISCLOSURE

## 5. Conclusions

This study provides evidence on the extent and quality of financial ratio disclosures in the annual reports of firms listed on the Ghana Stock Exchange. Agency and Signaling theories were used to test the relationship between firm size, profitability, liquidity, leverage, board composition and ownership concentration with the dependent variables, EFRD and QFRD.

The multiple regression results indicate that leverage and profitability are significant in predicting the extent of financial ratio disclosures. This is consistent with agency theory where highly leveraged firms may deal with higher agency costs due to higher auditing fees; therefore, they will have to disclose more information, including financial ratios. Firms with high profits also tend to disclose more information, including financial ratios thus signaling their performance in order to attract investments and gain shareholder confidence.

For the quality of financial ratios disclosures, the corporate governance mechanism do have predictive properties. The findings show that there is a significant positive relationship between board composition (proportion of non-executive directors) and the quality of financial ratio Whereas, ownership concentration is significantly affect the quality of financial ratio disclosures but in opposite direction with the expectation. The findings from this research are potentially important for regulatory bodies, professional accounting bodies, listed companies, business communities including shareholders. In addition, the existence of the Conceptual Framework by the IASB should be more fully utilized. These valuable framework documents should be regarded as vitally important guidelines for the preparers of financial statements to ensure that users are provided with quality information. Thus, the elements of relevance , reliability , comparability and understandability should be more inculcated into accounting research as well as listed firms' financial reporting communication practices. More extensive and higher quality dissemination of financial ratios disclosures would provide greater transparency for all stakeholders.

The findings of this study should serve as an important platform for further debate and research regarding voluntary financial ratio disclosure policies.

The study was conducted using data for the year 2012. Further longitudinal studies should be conducted to investigate financial ratio disclosure patterns of firms across years.

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