International Journal of Advanced Research and Development
ISSN: 2455-4030; Impact Factor: RJIF 5.24
Received: 03-11-2018; Accepted: 05-12-2018
www.advancedjournal.com
Volume 4; Issue 1; January 2019; Page No. 05-13

Has the mandatory adoption of IFRS impacted the cost of capital: An examination of impact on the cost of equity capital of listed non-financial firms in Ghana

Evans Akomeah
School of Business, University of Ghana, Accra, Ghana

Abstract
The mandatory adoption of IFRS by most countries around the world represented a paradigm shift in global financial reporting. Several studies have been conducted to measure the impact of the new accounting regime on firms. This paper examines the impact of IFRS adoption on cost of equity capital of listed non-financial firms in Ghana. Annual reports of sampled companies are used in gathering firm specific data whiles market data are sourced from various Governmental Institutions. A total of 16 companies are sampled to cover the study period, 2002-2012. The results of the study show that there is a significant negative relationship between IFRS and cost of equity. This implies that the adoption of IFRS in Ghana reduces the cost of equity capital of firms listed on the Ghana Stock Exchange.
The results of the interactive model indicates that, choice of auditor was a significant factor in the determination of cost of equity in the pre-adoption period. However, in the post adoption period, performance (ROE) is the statistically significant variable in determining cost of equity. This implies that investors and analysts relied extensively on the work of external auditors in their decision making. Post adoption investors and analysts appear to have shifted attention to the performance of firms in making decisions regarding cost of equity capital.

Keywords: equity, adoption, IFRS, Ghana

Introduction

Background of the study

The mandatory adoption of International Financial Reporting Standards by Ghana in 2007 is evidence of the evolution of global reporting standards of accounting. This evolution is to ensure the preparation and production of high quality set of financial statements and to enhance comparability of such statements across different regions around the globe (Barth *et al*., 2008). The perceived benefits of mandatory adoption of new accounting standards across jurisdictions is a subject of debate among academics and practitioners. However, benefits such as increase in stock market value, increase in market liquidity and lower cost of capital have been identified across different countries (Daske *et al*. 2008; Li, 2010) [22].

However, a common benefit of IFRS adoption as opined by accountants and financial statement users: is the reduction of cost of capital for firms (Levitt, 1998; and IASB, 2002) [34]. According to Barry and Brown (1985) such a phenomenon is dependent on higher information quality. They argued that, higher information quality lowers the perceived estimation risk of future returns by investors. Put differently, the use of a standardized global set of reporting lowers the information asymmetries between managers and outside investors, thus increasing liquidity and ultimately lowering the required rates of return (e.g., Diamond and Verrecchia, 1991) [3]. Studies such as Barth *et al*. (1999) have contradicted the evidence that the application of a single set of reporting standards reduces cost of capital across different jurisdictions (Leuz and Verrecchia, 2000; and Leuz, 2003) [33] or within same jurisdictions (Botosan, 1997).

Cost of capital is defined as the minimum rate of return investors require for investing capital in a particular firm, and that it comprises of the risk free rate of interest and a premium for the firm's non-diversifiable risk. Since it is a forward-looking measure, it is also called the 'expected' cost of capital and it has to be estimated. The existing empirical studies documented clearly shows that there is a negative relation between the level of information (i.e. disclosures) and the cost of capital (Hail & Leuz, 2006) [17].

As stated above, there are two school of thoughts as to why higher quality disclosures lower the cost of capital. The first one suggests that a higher level of information reduces the cost of capital by reducing the estimation risk of investors. The second one suggests that increased levels of information reduce the information asymmetry component of a firm's cost of capital and thereby reduce transaction costs. Covrig *et al*. (2007) [19] emphasized these different assertions in their study. According to Botosan (2006), investors are known to gravitate towards investments with lower estimation risks as well as transaction costs. He again opined that investors will do same if the investment is associated with less information asymmetry. Studies such as Leuz and Verrecchia (2000) [33] and Mohd (2005) [36] have found inverse relationship between higher quality disclosures and information asymmetry. Prodhan and Harris (1989) [40] also found a negative association between disclosure and non-diversifiable risk. Since the demand for stocks with low valuation risk, low transaction costs and less information asymmetry is greater, their market valuation should be higher (Botosan, 2006). Investors are willing to pay more for these stocks, firms will be able to raise more money when issuing equity and debt capital, and as a consequence, the cost of capital for these firms should be lower.

It is neither theoretically nor empirically clear that, international reporting or adoption of a global set of

accounting standard lowers the cost of capital across all jurisdictions or countries. Research, however, shows that benefits derived from the adoption of IFRS are not universal but appear to be stronger in jurisdictions where firms have greater incentives to be transparent as well strong legal systems to ensure the protection of investor claims. Ball *et al*. (2003) [7] found that benefits alluded to IFRS adoption accruing to firms came about due to the presence of strong oversight institutions. Lee *et al*. (2008), Li 2010 and Daske *et al*. (2013) [23] all came to a similar conclusion that, the need to be transparent is plays a significant role in reducing cost of capital rather than the mere adoption of IFRS.

Supporters of IFRS claim that publicly traded companies should apply a single universal set of accounting standards in the preparation of their financial statements and reports. According to these proponents, this is the best way to contribute to a better functioning capital markets (Quigley 2007). According to proponents of International Financial Reporting Standards (IFRS), listed firms ought to use a single set of high quality accounting standards, for their financial reports. This is to aid the efficiency of capital markets (Quigley 2007). The worldwide mandatory adoption of IFRS is expected to significantly improve cross country comparability, increase disclosures and reduce information asymmetry (Ball 2006, Choi and Meek 2011) [5]. Studies have also pointed out that, institutional arrangements is the most important determinant in the success or otherwise of accounting regimes. Arguments like these implies that mandatory adoption will have little or no impact on firms (Ball *et al*. 2003; Burgstahler *et al*. 2006) [7, 17]. Therefore, benefits emanating from IFRS adoption is expected to vary from one jurisdiction to the other. Enforcement or oversight, therefore, is the operative word or condition towards a sound reporting framework (Tweedie and Seidenstein 2005).

Following the adoption of IFRS by several countries around the world, a number of studies have sort to measure the impact of this regime change (change in accounting standards) on equity capital (Daske *et al*. 2008, Christensen *et al*. 2013, Li 2010, Byard *et al*. 2011) [22, 18]. Whereas these studies were carried out in different jurisdictions, quite a number of them point to a reduction in cost of equity capital. These findings are confined to countries with strong enforcement regime. The purpose of the study is to measure the impact of IFRS adoption on the cost of equity capital of listed non-financial firms in Ghana.

Significance of study

The study contributes to the growing literature on mandatory IFRS adoption. Existing evidence on the subject of mandatory adoption of IFRS is still an on-going debate, hence the mixed results thus far. For example, Christensen *et al*. (2009) suggest that mandatory adoption is not associated with enhanced financial reporting quality. Other researches on the other hand reports reduced cost of equity capital, reduced earnings management and enhanced reporting quality after mandatory adoption (Daske et.al., 2008; Landsman et.al, 2012; and Byard and Yu, 2010) [22].

This study adds to literature by looking at mandatory adoption from both equity and debt perspective.

Scope of study

Whereas literature has discussed and documented several benefits of IFRS adoption, this study will only focus on financial markets benefits of IFRS. Thus, the study only looks at the perceived benefit of IFRS in terms of cost of capital reduction. This study will not deal with any kind of accounting treatment of financial statements.

Literature Review

Agency theory and information asymmetry

Financial reporting is ensnared between the need to deliver reports which represent management's stewardship of resources as well as reports that meet the basic need of investors; thus usefulness of information. This conflicting roles of financial reporting is explained by the agency theory (Jensen & Meckling, 1976). This thesis is developed or built on the theoretical framework of the agency theory. The agency theory posits that, whenever one individual (agent) agrees to perform certain services on behalf of another (principal), a principal-agent relationship is established. In the corporate setting or environment, an agency relationship is created when principals (shareholders) fund an organisation through the purchase of shares. The principals, then contract with a set of agents to efficiently and effectively manage the organization.

Under the agency theory, the principals of financial reporting are the investors and creditors and the agents are management (particularly upper management). This arrangement permits investors to receive residual claims or profits without any other involvement in the company. Senior management is expected to produce financial reports that are true and fair in respect of an entity's operating results to users. However the principal-agent conflict gives rise to information asymmetry (Scott and Thomas, 2012.).

Information asymmetry could be explained as the imbalance of accounting information between internal (management) and external (investors) users (Scott and Thomas, 2012). Since the preparation of financial statements and reports lie with management, they have more access to information than investors and creditors to whom they report to. Accounting standards are to regulate financial reporting to moderate information asymmetry. Due to access and control parameters, external users of accounting information are at a disadvantage compared to internal users. This phenomenon is referred to as adverse selection. Put differently, it is perceived that principals are making investment decisions and they may make the wrong decisions if not handed the proper information. Adverse or negative selection arises due to the fact that management has superior knowledge concerning the financial projections of an entity. When these imbalance inures to the benefit of managers, the principals (investors and creditors) make sub-optimal investment choices.

Inconsequentially, adverse selection can be responsible for firm sub-performance and losses. However, when the phenomenon is left unchecked it could potentially leads to a misallocation of scarce financial resources and a distrust of the financial reporting system. According to the literature, financial markets have mechanisms of punishing and preventing risky agency and information symmetry conflicts (Ball, 2009). These mechanisms bring about higher than necessary discount rates or, in the extreme, the collapse of the market itself. The investor and management have a contractual relationship and based on that, management has a reporting obligation to the investor. To improve the integrity of the financial reporting function, the corroboration function is introduced and a third party – the

external auditor. Financial reports prepared by management are audited by the Auditor with a formal opinion issued. The auditor's opinion is to attest that, the reports are in accordance with the rules of financial reporting or accounting standards.

Accounting to Scott (2012), standards are essential for the execution of this monitoring role. Accounting standards are intended to mitigate information asymmetry and auditors test management prepared financial reports for compliance with the standards. The global movement of IFRS toward a single set of accounting standards with the objective of financial reporting targeted to serve equity investors parallels the work of Berle and Means (1968) with the same purpose of minimising agency costs. The Conceptual Framework for Financial Reporting 2010 articulates IASB's objectives which guide its standard setting decisions. Two crucial notions which motivate standard development under IFRS are relevance and faithful representation.

Effects of IFRS Adoption

The outcome of mandatory IFRS implementation on firms' information environs is not clear ex ante. Frequently sighted benefits associated with IFRS adoption are increased reporting quality and comparability. Improvements in reporting quality is significantly known to reduce adverse selection in the securities markets (Welker 1995; Healy *et al*. 1999; Lambert *et al*. 2007), cost of capital reduction (Botosan 1997; Hail and Leuz 2006) [17] and improves efficiency of information intermediaries (Land and Lundholm 1996; Healy *et al*. 1999; Hope *et al*., 2006). In this regard, IFRS is considered to be a set of high quality standards that provide valuable and timely information to investors (Ashbaugh and Pincus 2001) [1]. The reporting quality of voluntary adopters were found to have increased.

Ashbaugh and Pincus (2001) [1] observed from their study that, firms that voluntarily adopted IFRS increased their level of disclosures and thereby reducing forecasting errors. In a similar manner, Horton and Serafeim (2010), discovered that reconciliations done under IFRS provided new information to investors. Their findings included firms that had reported under accounting regimes such as the UK GAAP. Other studies have equally found that stock price synchronicity reduced post IFRS adoption, however, such observed phenomenon is temporary (Beuselinck *et al*. (2010). Shivakumar 2005 argues that, beyond IFRS adoption, the firms incentive to transparency is the single most important factor the ultimately ensures reporting quality. Ball *et al*. (2000) makes a similar assertion; arguing that the reporting quality of financial reports fundamentally lies with managements' transparency and not necessarily with an accounting regime. Consistent with the importance of reporting incentives, Christensen *et al*. (2009) find that incentives dominate standards in determining accounting quality around mandatory IFRS adoption.

Moreover, various studies fail to find strong evidence that IFRS improves the information set of investors and find limited or no capital market benefits for mandatory adopters. Daske *et al*. (2008) [22] show that capital market benefits around mandatory adoption of IFRS are unlikely to exist primarily because of IFRS adoption. Daske (2006) [21] finds no evidence that IFRS adoption decreases a firm's cost of capital.

With regards to investor and analyst forecasting post IFRS adoption, it is expected to be challenging within the first few years of adoption. This is due to breaks or distortions with historical time-series of earnings. According to a study by Acker *et al*. (2002), they found that the implementation of UK Financial Reporting 3 initially posed challenges to analysts' forecasting abilities. However, this challenge was significantly reduced in subsequent years. Based on this assertion IFRS adoption is expected to pose similar challenges to analysts within the first few years of adoption. This is expected to cause forecasting errors initially but subsequently resolved as analysts and other users build familiarity with the reporting regime (IFRS). Studies have found that, unease among analysts and investors were especially high for firms reporting under IAS or US GAAP compared to those who reported under a local GAAP (Cuijpers and Bujink 2005) [20].

Studies have shown that accounting comparability reduces home bias (Bradshaw *et al*., 2004) [15]; Covrig *et al*., 2007) [19], and improves the efficiency of information intermediaries (Bae *et al*., 2008; Bradshaw *et al*., 2010). Covrig *et al*., (2007) [19] show that voluntary IFRS adoptions facilitate cross-border equity investments. Yu (2010) shows that mandatory IFRS adoption also increases cross-border equity holdings. Tan *et al*., (2010) provide evidence that foreign analysts are more likely to cover a firm that adopts IFRS, and that forecast accuracy for these analysts improves after mandatory IFRS adoption.

However, the potential for IFRS to increase comparability is questioned by many, because the same accounting standards can be differently. In the absence of suitable enforcement mechanisms, real convergence and harmonization is infeasible, resulting in diminished comparability (Ball, 2006) [5]. Cultural, political and business differences may also continue to impose significant obstacles in the progress towards this single global financial communication system, since a single set of accounting standards cannot reflect the differences in national business practices arising from differences in institutions and cultures (Armstrong *et al*., 2009); Soderstrom and Sun, 2007). Beneish *et al*. (2010) show that mandatory IFRS adoption increases cross-border debt but not equity investments. Lang *et al*. (2010) find that earnings comparability does not improve for IFRS adopters relative to a control group of non-adopters. Thus, the empirical question remains as to whether the quality of the information environment improves or deteriorates following IFRS adoption.

IFRS and Cost of Equity

According to previous theoretical and empirical evidence in this field, mandated disclosures, as the legal requirement of the International Financial Reporting Standards (IFRS) adoption in the EU, can reduce the cost of equity capital through, at least, two different paths: increasing the quality of financial disclosure and enhancing information comparability. From previous discussions, IFRS is seen as a more market oriented and comprehensive particularly in terms of disclosure requirements as opposed to local accounting standards (Daske *et al*., 2008) [22]. Literature documents evidence to support the association between reporting quality and adverse selection problems associated with stock markets, enhancing liquidity and allowing for a decrease in the cost of equity, through diminishing transaction costs, stronger demand for securities (Easley and O'Hara, 2004) and lower forward-looking betas (Francis, Khurana & Pereira, 2005; Lambert *et al*., 2007).

The case of uniform and comparable financial information is made in favour of IFRS adoption and its beneficial effect on cost of equity capital. Thus, a uniform set of accounting standards can improve comparability of financial information of firms across markets and countries, making the use of information less costly for investors and, in turn, reducing information asymmetries and leading to a lower cost of equity capital (Covrig *et al*., 2007) [19].

The influence of information comparability on firms' cost of equity capital appears to be a grave issue. In fact, even if the quality of corporate reporting is not improved by the mandatory adoption of IFRS, the financial information made available by firms in different markets and countries is still very useful to investors as IFRS reporting enhances the comparison across firms and drops estimation risk (Daske *et al*., 2008; Lambert *et al*., 2007) [22]. There is, however, empirical proof suggesting that the positive effects of IFRS adoption on the cost of equity capital will solely emerge if the improvement in quality reporting and increase in information comparison across corporations in accordance to firms' reporting incentives and enforcement mechanisms (Li, 2010). In other words, it is uncertain that mandating the use of IFRS alone makes financial information more informative or comparable (Daske *et al*., 2008) [22]. In fact, reporting incentives and enforcement play an imperative role in clarifying the positive impact of IFRS mandatory adoption as capital-market effects have only emerged in countries with strong institutions and legal systems. This is appears to be the reason why many countries have made enforcement changes (i.e. the creation of enforcement authorities that assume responsibility for IFRS compliance, governance and auditing reforms) along with the switch in accounting standards to support it, and it seems to be this bundle that is accountable for the positive capital-market outcomes (Christensen *et al*., 2013).

These institutional changes can alter firms' reporting incentives leading to better quality disclosures and, thus, to a lower cost of equity capital. As countless countries with diverse enforcement regimes and institutional structures adopted the IFRS around the same, it is in practice hard to unravel the effects stemming from the shift in the information disclosure from other "external effects" (such as unrelated institutional changes or economic shocks) as well as to identify whether the effects are supported just around the time of the introduction of IFRS or, instead, they remain over time. There are, thus, some unsolved questions that can be addressed through a focused analysis on particular countries in order to get to comparable results that may avoid the above mentioned "noisy" effects. Hence from the discussions it can be hypothesized that:

H1: IFRS adoption will reduce cost of equity capital of listed non-financial firms in Ghana.

Population/Sample

In this study, the population refers to all companies listed on the Ghana Stock Exchange (GSE) as of 2002. The population consist of listed firms from 2002 so as to enable the selection of samples for a 10 year study period. In constructing a matched sample consistent with Lang *et al*. (2003), the year of adoption and industry were identified and checked to ensure that the audited financial report clearly state the accounting standard used. Ultimately, the samples were divided into Pre and Post adoption. The sample consisted of firms listed from 2002 – 2012. A total of sixteen (16) firms were sampled for the study. All 16 companies were listed from 2002 to 2012. Thus, the same firms were studied for both the pre and post adoption periods.

Variable Measurement

Cost of equity (dependent variable)

For cost of equity capital, the dependent variable used is adopted from the study of Easton (2004) [25] to compute the cost of equity for each firm's stock for the respective years.

The cost of equity capital is defined as the market discount rate that equates an equity (stock's) future expected returns with its current price. As an unobservable variable, for its estimation, two streams in the literature: ex-post estimates, based on realized returns, and ex-ante estimates, based on analysts' forecasts have been identified.

The latter has been critiqued for being imprecise as it is not a steadfast representation or proxy for the cost of equity capital (Reverte, 2009), showing potential problems to identify the right asset pricing model, imprecision in the estimate of factor loadings and in the estimate of factor risk premium (Fama & French, 1997). For estimating the cost of equity capital under the ex-ante perspective, researchers work out the implied cost of capital for each firm by forecasting variables (mainly earnings and book value) up to a terminal period and to set a suitable terminal value to capture the value of the accounting variables beyond the terminal period (Espinosa & Trombetta, 2007). Botosan *et al*., (2011) [14] assess the reliability of the methods used under both approaches and providing additional evidence to the construct validity of the proxies employed in extant research. Their study suggest that realized returns do not proxy for the cost of equity capital, even after controlling for new variables, and recommend researchers the indistinct use of the PEG method (Easton, 2004) [25], also called rPEG, or the target price method (Botosan and Plumlee, 2002).

According to them, these two methods provide cost of equity capital estimates that are consistently and predictably related to risk and consistently demonstrate the greatest degree of construct validity. Similar conclusions are provided by Artiach and Clarkson (2011) concerning the PEG method. Based on the above discussions, the study of Easton (2004) [25] rPEG proxy for estimating the cost of equity capital of a firm's stocks is used. Therefore cost of equity estimation for each firm becomes:

$$r_{PEG} = \left[\frac{eps_1 - eps_0}{P_0}\right]^{\frac{1}{2}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

From the equation, r_{PEG} represents the estimated cost of equity capital for firm i in time t. The equation considers consensus forecasts of earnings per share (eps_1) at time t_{+2} and consensus forecasts of earnings per share (eps_0) at time t_{+1}. Po the stock's price at the end of the fiscal year t.

The explanatory variables

IFRS: is a dummy variable indicating year of adoption (IFRS 1) and pre adoption (IFRS 0). In addition, issuer-specific and macroeconomic variables, commonly used in studies, are also included in order to control for other factors that could affect the cost of equity capital

Embedded variables based on firms' accounting information: these variables are included to control for firm

specific accounting information.
Size: is defined as the natural log of market capitalization of firms.

Leverage: is defines as non-current liabilities over equities plus noncurrent liabilities.

Roe: is defined as net income after-tax divided by shareholders fund.

Revenue: is measured or defined as the natural log of Sales/Revenue.

Auditor: a dummy variable with value 1 representing a big four and 0 representing otherwise.

Market/external variables: these variables are included to control for external influences on the cost of equity capital of firms.

Beta: is defined as regression coefficient between stocks' market returns and the return of the market portfolio, the Ghana Stock Exchange index, as a proxy of the companies stocks' systematic risk.

GSE Index: represents the annual percentage returns on the Ghana stock Exchange.

According to prior theoretical and empirical research, the measure of expected return or cost of equity capital seems to be positively related to beta (Muiño & Trombetta, 2009; Lee *et al*., 2009), Leverage (Damodaran, 2010) and negatively related to Size (Li, 2010), and the average return on the capital market (Kofman & Martens, 1997). Additionally, firms' return on equity (ROE) are expected to be negatively correlated with a firm's cost of equity capital as well. Revenue of firms is also expected to negatively relate to cost of equity with the same relationship expected between auditor choice and cost of equity capital (Pittman and Fortin, 2004) [38].
Following the rationale of Orens *et al*. (2010), the effect of IAS/IFRS adoption on the cost of debt can be examined by using the following model:

$$Y_{it} = \alpha + \beta X_{it} + e_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

After incorporating cost of equity capital the formal model therefore becomes:

$$R_{PEG} = \alpha + \beta_1 SIZE_{it} + \beta_2 LEVERAGE_{it} + \beta_3 ROE_{it} + \beta_4 REVENUE_{it} + \beta_5 BETA_{it} + \beta_6 GSE\ INDEX_{it} + \beta_7 AUDITOR_{it} + IFRS + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad \ldots\ldots\ldots \quad (3)$$

Descriptive Statistics and Correlation Analysis

Table 1: Descriptive statistics of cost of equity capital

Variable	Obs	Mean	Std. Dev.	Min	Max
Size	176	16.977	1.747	13	21
Revenue	176	17.233	2.180	12	20
Auditor	176	0.750	0.434	0	1
Gse index	176	0.331	0.536	-0.466	1.547
Roe	176	0.137	0.612	-4.907	3.713
Ifrs	176	0.455	0.499	0	1
Beta	176	0.038	1.262	-8.590	4.470
Leverage	176	0.235	0.561	0.000	3.590

From the results in table 1, SIZE has an average of 16.97 with a standard deviation of 1.747. The associated minimum is 13 whereas the maximum value is 21. REVENUE has a mean value of 17.233 and a standard deviation of 2.180. The minimum and maximum vales for REVENUE are 12 and 20 respectively. AUDITOR which is a dummy variable has 0 and 1 as minimum and maximum values. The average or mean value is 0.75 with a corresponding standard deviation of 0.434. GSE INDEX has a minimum value of -0.466 and a maximum value of 1.547 for the period of study. GSE INDEX has a standard deviation of 0.536 and a mean value of 0.331. ROE has a mean value of 0.137 and a standard deviation of 0.612. The maximum value is 3.713 and a minimum value of -4.907. The minimum and maximum values of ROE indicate that some firms have extremely low levels of profitability whereas other firms have incredibly high levels of profitability within the study period. IFRS which is also a dummy variable has 0 and 1 being minimum and maximum values respectively. The mean value is 0.455 and a standard deviation of 0.499. BETA has -0.859 as the minimum value and 4.470 as the maximum value. The associated standard deviation is 1.262 and the mean value is 0.038. LEVERAGE has a standard deviation of 0.561, a minimum value 0 and the maximum value of 3.59. The minimum value implies that a company within the sample of study for the period under consideration had no debt on its books.

Table 2: Correlation matrix of cost of equity capital

	RPEG	Size	Revenue	Auditor	Leverage	GSE Index	ROE	Beta	IFRS
RPEG	1								
Size	-0.0839	1							
Revenue	-0.0668	0.4319	1						
Auditor	-0.1597	-0.1281	-0.2339	1					
Leverage	0.0112	-0.2412	-0.1993	0.1913	1				
GSE index	0.2056	-0.0964	-0.0625	0.0000	0.1412	1			
ROE	0.0733	0.1358	0.1474	-0.0783	0.2485	-0.0025	1		
BETA	-0.0837	0.1158	0.0488	0.0831	0.0004	-0.0056	-0.1892	1	
IFRS	-0.1705	0.1560	0.1279	0.0000	-0.1838	-0.3426	-0.0242	-0.1407	1

Table 2 shows the correlation matrix for the variables of the study. Cost of equity (R_{peg}) has a weak but negative correlation with SIZE. This inverse correlation implies that as cost of equity increase, investments in non-current assets decrease at a decreasing rate. REVENUE is also weakly negatively correlated with cost of equity with the value being -0.0668. This implies an increase in revenue decreases marginally, the cost of equity capital. The correlation value of -0.1597 for AUDITOR in relation to cost of equity capital shows an inverse relationship. This means the appointment

of external auditor from any of the big four firms would most likely reduce the cost equity capital. LEVERAGE, GSE INDEX and ROE are all positively correlated with cost of equity capital. Thus, as the firm adds on more debt cost of equity increases. The value of -0.0112 indicates increases in leverage will most likely not impact cost of equity substantially. IFRS has a negative correlation with cost of equity with the reported value of -0.1705. This shows the adoption of IFRS does reduce cost of equity capital of listed firms. However, the observed correlation is not strong, implying full benefit of adoption is not yet achieved.

Cost of Equity (regression results)

Table 3, shows the regression results for cost of equity using the fixed shift approach. The adjusted R-square is 28.80% indicating the level of variations explained by the control variables in the model. The F-statistic is 0.0000 indicating the fitness of the regression model.

From the regression results, SIZE has a coefficient of 0.002847 indicating a positive relationship with cost of equity. The relationship is inconsistent to the predicted direction and also statistically insignificant. LEVERAGE has a negative coefficient of -0.0046744. The negative association is consistent with the predicted direction. REVENUE is negatively related to cost of equity with a coefficient value of -0.00665 and statistically insignificant. Choice of AUDITOR is negatively related with a value of -0.0399 and statistically significant at 10%. GSE index has a coefficient value of 0.004622 and statistically insignificant. ROE is positively related to cost of equity and statistically significant at 10%. The relationship is inconsistent with the predicted direction. BETA is inversely related to cost of equity with a coefficient value of-0.0075328 and statistically insignificant. IFRS has a negative coefficient of -0.07416 and statistically significant at 1%.

Table 4, shows the regression results from the interactive model which is to capture the pre and post IFRS effects on the control variables. IFRS variable is used as the interactive variable against other firm specific variables. The adjusted R-square is 32% and the F-statistic is also 0.0000. This indicates the fitness of the model and the level of variations explained by the control variables. IFRS. Size is statistically insignificant with a coefficient value of -0.005446. IFRS. Leverage, IFRS. Revenue as well as IFRS. Auditor are all statistically insignificant with the latter two having a negative association with cost of equity capital.

Table 3: Regression analysis of IFRS on Cost of equity

		n=176		
Dependent Variable: cost of equity				
independent Variables	**predicted signs**	**coefficients**	**t-stats**	**p-values**
Size	-	0.002847	0.24	0.809
Leverage	-	-0.0046744	-0.57	0.571
Revenue	-	-0.0066511	-0.82	0.413
Auditor	-	-0.0399006	-1.84	0.066*
GSE Index	+	0.004622	0.27	0.784
Return on equity	-	0.010483	1.71	0.088*
IFRS/IAS	-	-0.0741643	-2.94	0.003***
Beta	-	-0.0075328	-1.46	0.145
Prob>F				0.0000
N clusters				16
R sqd				0.2880

The results show a robust regression equation. Cost of Equity (R_{peg}) is ascertained using Easton's equation in estimating implied cost of equity in years t and t-1. Log_Revenue is the log of firm i's total sales. Size is given as the natural log of firms' market value. Leverage is given as Long-term debt divided by Equity Capital. GSE index is the annual all share index of the Ghana Stock Exchange. ROE is return on equity computed as earnings after tax divided by outstanding common stocks. Auditor is dummy variable representing the choice between international and local auditors. IFRS is a dummy representing pre and post adoption periods.

Table 4: Regression analysis of IFRS on Cost of equity (Interactive model) Allowing variables to shift between pre & post IFRS

Dependent Variable: cost of equity				
independent Variables	**predicted signs**	**coefficients**	**t-stats**	**p-values**
Size	-	0.0061413	0.67	0.502
Leverage	+	0.0050155	0.44	0.658
Revenue	-	-0.0113279	-1.51	0.13
Auditor	-	-0.0529432	-1.77	0.077*
GSE Index	+	0.0051582	0.29	0.769
Return on equity	-	-0.0169057	-1.05	0.292
IFRS/IAS	-	-0.1835854	-1.37	0.171
IFRS. Size	-	-0.0054464	-0.31	0.758
IFRS. Leverage	+	-0.0307678	-1.19	0.235
IFRS. Revenue	-	-0.0105364	-0.69	0.488
IFRS. Auditor	-	-0.0267439	-0.84	0.402
IFRS. Return on Equity	-	0.0304362	1.82	0.069*

The results show a robust regression equation. Cost Of Equity is ascertained using Easton's equation in estimating implied cost of equity in years t. Log_ Revenue is the log of firm i's total sales. Size is given as the natural log of firms'

market value. Leverage is given as Long-term debt divided by Equity Capital. GSE index is the annual all share index of the Ghana Stock Exchange. ROE is return on equity computed as earnings after tax divided by outstanding common stocks. Auditor is dummy variable representing the choice between international and local auditors. IFRS is a dummy representing pre and post adoption periods. The coefficients of market variables were not included in the interactive equation. This is due to the fact that IFRS adoption has no influence on them.

Cost of Equity (interactive regression results)

SIZE in the post adoption period increased by 0.5. Since size is measured as market capitalization of firms, the increment could be attributable to companies floating more shares or as a result of share prices increasing. GSE INDEX recorded a significant drop in returns in the post adoption period. However, the decrease in the GSE INDEX does not necessarily impact on the profitability of firms since market returns are actually different from firm returns. BETA which measures the risks associated the stocks off the firms decreased in the post adoption period. This decrease could also account for the marginal decrease in the cost of equity capital. ROE experienced a significant decrease in the post adoption period. This decrease could be attributed to a decrease in operating profit which invariably caused a decrease in profit after tax.

IFRS impact on cost of equity

IFRS is statistically significant and has a negative association with cost of equity. This indicates that IFRS adoption causes a fixed decrease in the cost of equity capital of listed firms in the sample. This implies that IFRS adoption is interpreted by shareholders as news worthy of consideration. The significant impact of IFRS on cost of equity capital is consistent with studies by Daske *et al*. (2008) [22] and Daske *et al*. (2010). In their studies, they found IFRS adoption to have decreased cost of equity capital post adoption. However, the results of the study is inconsistent with Christensen *et al*. (2013). They found IFRS adoption not to have significantly decreased the cost of equity capital.

Return on equity and Auditor statistically significant variables. Return on equity has positive association with cost of equity capital. This association is inconsistent with Easton (2004) [25] study. Choice of auditor from the reported results indicates that cost of equity is significantly reduced. Thus, the choice of a "big four" auditor is perceived by investors to enhance the credibility of financial statements. This result is consistent with the study by Pittman and Fortin (2004) [38] whose study found auditor choice to be significantly inverse related to cost of capital.

Interestingly, Size of firm did not have a significant effect on cost of equity capital. It is well-documented in the literature that size exhibits a negative relation with expected returns, as a residual risk factor, in any incomplete model of expected returns (Berk, 1995). This suggests that investors or equity holders may not be necessarily interested in how big a company is. They may be rather interested in how efficient and effective resources are so as to guarantee the returns expected of them. This anomaly can be explained in terms of the sample size, as an important limitation to capture the full expected effect from the study's test variables. Another possibility for this positive insignificant association as opposed to a positive one has to do with how size is measured (market capitalization). Equity holders (both potential and existing) may be of the understanding that, share prices may increase to push up market capitalization not necessarily due to firm specific information on the market. Therefore, other macro-economic factors may affect prices, hence reduction or appreciation in market capitalization of firms (Size). On the other hand, appreciation of market prices would positively affect the price-to-earnings ratio of firms (from investors' perspective) requiring firms to perhaps pay more of earnings out to shareholders.

The surprising results is the insignificant effect of beta and financial leverage on the cost of equity capital. Beta and Leverage both were inversely related to cost of equity capital. This suggests that cost of equity is reduced by these two variables just not in a significant manner. These results are inconsistent with studies by DeAngelo and Masulis (1980) [20] as well as Sharpe (1964). GSE index although insignificant shows a positive relationship with cost of equity. Thus, as the market returns (GSE index) increases cost of equity increases.

Additional Analysis

An interactive equation is estimated to allow for the coefficients to shift between pre and post adoption periods. The results of the interactive equation or model is reported in table 4 (panel b). From the results reported in Table 4 (interactive equation), there is not a significant change in the coefficients of the independent variables as they shift between pre and post adoption period. This indicates that variables that are significant in the pre-adoption period is still expected to be so in the post-adoption period and vice-versa. Thus, mandatory adoption has not had significant effect on these independent variables that impact cost of equity capital.

More importantly, the results show that IFRS adoption is a significant variable in explaining the variations in the cost of capital of stocks. The negative coefficient of IFRS is serves as evidence that the mandatory IFRS adoption has allow Ghanaian listed firms to reduce the cost of its equity capital by dropping the required return for its stocks in the period 2007-2012 compared to the pre-adoption period (2002-2006). Size, Leverage, Revenue, Return on equity and auditor were interacted with IFRS. Of these only return on equity was statistically significant.

IFRS impact on cost of equity capital

From the results presented, IFRS adoption has a caused a fixed decrease in the cost of equity capital. However, IFRS adoption does not appear to have caused significant changes to firm specific variables when these variables were allowed to shift between pre and post adoption periods. From the results presented in Table 8, auditor choice and beta had significant impact on cost of equity capital. However, when the coefficients were allowed to shift, only auditor choice was significant in the post adoption period. Size was positively related to cost of equity in the pre adoption period but negatively related in the post adoption period (after moderation).

Conclusion

The results of the study indicate that the mandatory adoption of IFRS has indeed affected the cost of equity capital of

listed firms in Ghana. The results showed an inverse statistical coefficient when IFRS is regressed on cost of equity capital. This implies that investors indeed consider the mandatory adoption of IFRS to have reduced information asymmetry and adverse selection. This consideration warranted a reduction in their required rate of return. However, to fully understand the general impact of IFRS, other firms' specific variables were interacted with IFRS. The results highlight choice of auditor and return on equity as two important variables that investors consider in deciding on their required rate of return. ROE is statistically significant when interacted with IFRS. This means investors of listed firms in Ghana pay particular attention to the performance (ROE) of firms in their determination cost of equity capital. Auditor choice is a significant factor investors consider, thus, investors place heavy reliance on financials audited by members of the big four.

References

1. Ashbaugh H, Pincus M. Domestic accounting standards, international accounting standards, and the predictability of earnings. Journal of accounting research. 2001; 39(3):417-434.
2. Bae KH, Stulz RM, Tan H. Do local analysts know more? A cross-country study of the performance of local analysts and foreign analysts. Journal of Financial Economics. 2008; 88(3):581-606.
3. Baiman S, Verrecchia RE. The relation among capital markets, financial disclosure, production efficiency, and insider trading. Journal of accounting research, 1996, 1-22.
4. Ball R. Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. Brookings-Wharton papers on financial services. 2001; 1:127-169.
5. Ball R. International Financial Reporting Standards (IFRS): pros and cons for investors. Accounting and business research. 2006; 36(1):5-27.
6. Ball R, Shivakumar L. Earnings quality in UK private firms: comparative loss recognition timeliness. Journal of accounting and economics. 2005; 39(1):83-128.
7. Ball R, Robin A, Wu JS. Incentives versus standards: properties of accounting income in four East Asian countries. Journal of accounting and economics. 2003; 36(1):235-270.
8. Balsam S, Krishnan J, Yang JS. Auditor industry specialization and earnings quality. Auditing: A Journal of Practice & Theory. 2003; 22(2):71-97.
9. Barth ME. Standard-setting measurement issues and the relevance of research. Accounting and Business Research. 2007; 37(1):7-15.
10. Barth ME, Beaver WH, Hand JR, Landsman WR. Accruals, accounting-based valuation models, and the prediction of equity values. Journal of Accounting, Auditing & Finance. 2005; 20(4):311-345.
11. Barth ME, Cram DP, Nelson KK. Accruals and the prediction of future cash flows. The accounting review. 2001; 76(1):27-58.
12. Beneish MD. Earnings management: A perspective. Managerial Finance. 2001; 27(12):3-17.
13. Beneish MD, Press E. Costs of technical violation of accounting-based debt covenants. Accounting Review, 1993, 233-257.
14. Botosan CA, Plumlee MA, Wen H. The Relation between Expected Returns, Realized Returns, and Firm Risk Characteristics*. Contemporary Accounting Research. 2011; 28(4):1085-1122.
15. Bradshaw MT, Bushee BJ, Miller GS. Accounting Choice, Home Bias, and US Investment in Non-US Firms. Journal of Accounting Research. 2004; 42(5):795-841.
16. Burgstahler D, Dichev I. Earnings management to avoid earnings decreases and losses. Journal of accounting and economics. 1997; 24(1):99-126.
17. Burgstahler D, Hail L, Leuz C. The importance of reporting incentives: Earnings management in European private and public firms. The Accounting Review. 2006; 81(5):983-1016.
18. Byard D, Li Y, Yu Y. The effect of mandatory IFRS adoption on financial analysts' information environment. Journal of accounting research. 2011; 49(1):69-96.
19. Covrig VM, Defond ML, Hung M. Home bias, foreign mutual fund holdings, and the voluntary adoption of international accounting standards. Journal of Accounting Research. 2007; 45(1):41-70.
20. Cuijpers R, Buijink W. Voluntary adoption of non-local GAAP in the European Union: A study of determinants and consequences. European accounting review. 2005; 14(3):487-524.
21. Daske H, Gebhardt G. International financial reporting standards and experts' perceptions of disclosure quality. Abacus. 2006; 42(3-4):461-498.
22. Daske H, Hail L, Leuz C, Verdi R. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. Journal of accounting research. 2008; 46(5):1085-1142.
23. Daske H, Hail L, Leuz C, Verdi R. Adopting a label: Heterogeneity in the economic consequences around IAS/IFRS adoptions. Journal of Accounting Research. 2013; 51(3):495-547.
24. DeAngelo H, Masulis RW. Optimal capital structure under corporate and personal taxation. Journal of financial economics. 1980; 8(1):3-29.
25. Easton PD. PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital. The accounting review. 2004; 79(1):73-95.
26. Hail L, Leuz C, Wysocki P. Global accounting convergence and the potential adoption of IFRS by the US (Part II): Political factors and future scenarios for US accounting standards. Accounting Horizons. 2010; 24(4):567-588.
27. Hail L, Leuz C. International Differences in Cost of Equity Capital: Do Legal Institutions and Securities Regulation Matter? Journal of Accounting Research. 2006; 44(3):485-531.
28. International Accounting Standards Board. The Conceptual Framework for Financial Reporting IFRS, 2010.
29. International Organisation of Securities Commission. IOSCO: IASC Standards: Report of the Technical Committee of the International Organisation of Securities Commissions, 2000.
30. Jensen MC, Ruback RS. The market for corporate control: The scientific evidence. Journal of Financial economics. 1983; 11(1):5-50.

31. Leuz C. IAS versus US GAAP: information asymmetry–based evidence from Germany's new market. Journal of accounting research. 2003; 41(3):45-472.
32. Leuz C. Cross listing, bonding and firms' reporting incentives: A discussion of Lang, 2006.
33. Leuz C, Verrecchia RE. The Economic Consequences of Increased Disclosure (Digest Summary). Journal of accounting research. 2000; 38:91-124No.
34. Levitt A. The importance of high quality accounting standards. Accounting Horizons. 1998; 12:79-82.
35. Li S. Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital?. The Accounting Review. 2010; 85(2):607-636.
36. Mohd E. Accounting for software development costs and information asymmetry. The Accounting Review. 2005; 80(4):1211-1231.
37. Penman SH, Penman SH. Financial statement analysis and security valuation New York: McGraw-Hill, 2007, 476.
38. Pittman JA, Fortin S. Auditor choice and the cost of debt capital for newly public firms. Journal of accounting and economics. 2004; 37(1):113-136.
39. Prather-Kinsey J, Jermakowicz E, Vongphanith T. Capital market consequences of European firms' mandatory adoption of IFRS. In American Accounting Association Annual Meeting (Anaheim, California), 2008.
40. Prodhan BK, Harris MC. Systematic risk and the discretionary disclosure of geographical segments: an empirical investigation of US multinationals. Journal of Business Finance & Accounting. 1989; 16(4):467-485.
41. Sarantakos S. Social Research. 3rd. Hampshire: Palgrave Macmillan, 2005, 1249.
42. Scott WR. Financial accounting theory. Upper Saddle River, NJ: Prentice Hall. 1997; 3:335-360.