

UNIVERSITY OF GHANA

COLLEGE OF HUMANITIES

**STOCK RETURN EFFECTS OF ACCOUNTING INFORMATION AND
INSTITUTIONAL QUALITY**

BY

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**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR
THE AWARD OF MPhil ACCOUNTING DEGREE**

MAY, 2018

DECLARATION

I, Esi Kraba Brandful, do hereby declare that this thesis is the result of my own research and has not been documented for presentation in this or any other University. All references in the work have been duly acknowledged. I also declare my full responsibility for any shortcomings in this document.

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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures laid down by the University.

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DEDICATION

I humbly dedicate this thesis to the Almighty God. All I have to say is thank you. And to my biggest cheerleaders, Mr. and Mrs. Brandful.

ACKNOWLEDGEMENT

My heartfelt gratitude goes to my supervisors, Prof. Mohammed Amidu and Dr. William Coffie, for their patience, dedication, time, expertise, assistance, submissions and critiques from the commencement of the study to the successful completion of it and especially for opening their doors to me.

I also say a big thank you to all the lecturers and staff of the Department of Accounting, University of Ghana Business School, for their support, contributions and encouragement.

My deepest gratitude goes to the following friends at University of Ghana Business School for their profound assistance and encouragement: Mr. Iddrisu Abdul Ganiyu, Mr. Divine Allotey, Mrs. Theodora Marfo, and all my classmates.

To my dad and mum, Mr. and Mrs. Brandful, my sisters, Araba and Ewuraefua and these special friends, Naa Dza, Peter, Samuel, Fred and Emmanuel: I cannot begin to express how much your support and prayers meant to me.

ABSTRACT

This thesis analyses the extent to which accounting information quality (AIQ) and institutional quality (IQ) influence stock return. It employs a sample of 39,490 listed firms across 45 countries from 1995 to 2013 using both macro and micro-level data and is estimated using System Generalised Method of Moments (System GMM). The thesis provides the following empirical evidence: that a firm's earnings are persistent albeit cash flows show a higher persistence. Second, the thesis supports previous studies that establish that conservative accounting results in reversal of losses in future periods. Third, the thesis provides evidence that IQ positively affects AIQ where earnings management is employed as a proxy for AIQ. Moreover, while the study found no significant association between AIQ and stock return, a sensitivity analysis showed that the interaction of AIQ and IQ significantly affects stock return.

The thesis makes the following contributions to literature: the use of System GMM thoroughly mitigates the endogeneity bias relating to firms' stock return. Furthermore, the sensitivity effect of AIQ and IQ on stock return is also new in literature. Additionally, the thesis provides insight on how AIQ and IQ across different regions affect the stock return of firms operating in those regions.

The thesis serves as evidence of the need for policies that directly address firm reporting behaviour and highlights the need for investors to supplement internally prepared financial information with more objective sources. Furthermore, the study shows how a country's institutional environment contributes to its risk profile emphasises the need for investors to diversify across countries and not just across industries.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Accounting information is useful for decision-making for various stakeholders. Stock market participants are particularly interested in this information as high quality information has been found to improve capital market efficiency (Ewert & Wagenhofer, 2011). As a result, regulators have sought to put measures in place in order to improve the quality of accounting information.

Extant literature suggests that the quality of accounting information impacts on stock returns and seeks to establish the relationship between the two (Dechow, Sloan, & Zha, 2014). Kormendi & Lipe (1987) find a strong relationship between earnings and stock price. However they find that this occurs when earnings are persistent. This confirms the classical valuation theory of stock price which proposes that stock price is the present value of future cashflows (Miller & Modigliani, 1961). More recent studies have also analysed the relationship between earnings quality and stock prices but the results have been inconclusive. On one hand (Mc Innis, 2010) find no association between accounting information quality or earnings quality as measured by earnings smoothness and average stock return whereas Zhu & Xia (2011) find that accounting conservatism strongly influences stock pricing. From the above, one implication is that the difference in results is attributable to differences in measures of earnings quality. Another consideration is that the differences are due to the different contexts in which they are studied.

Studies suggest that variations in institutional factors across countries affect the returns-earnings association. Leuz, Nanda, & Wysocki (2003) explore the effect of investor rights protection on earnings quality in thirty-one countries. They find that countries with stronger protection produce higher quality earnings information. This would then impact on stock return. Cahan, Emanuel, & Sun (2009) examine the same factor but at firm level in thirteen countries and relates it to the relationship between returns and earnings which they call the returns-earnings association. They contend that a country's institutional structures would impact on the ability of stock prices to inculcate accounting information. While institutional factors include the adoption of high quality accounting standards, that alone is not enough to improve accounting information quality and subsequently, stock return. Ebaid (2016) conclude that high quality standards will not improve earnings quality unless it is simultaneously accompanied by stronger institutions. Thus, this study seeks to examine how accounting information and institutional quality influence stock return.

1.2 Problem Statement

Accounting information quality has been the subject of much accounting research (Xie, 2001; Dechow & Schrand, 2004; Lambert et al, 2007; Dechow et al., 2010; Ewert & Wagenhofer, 2011). Literature broadly defines accounting information or earnings quality to mean earnings that are an indicator of future earnings (Penman & Zhang, 2002; Ecker et al, 2006; Francis et al, 2008; Ewert & Wagenhofer, 2011). Similarly, Callen, Khan, & Lu (2013) refer to the precision with which accounting information informs equity investors about future cash flows as accounting quality.

Threads of research argue that accounting information is related to institutional quality. Institutional quality takes the form of quality of accounting standards, corporate governance structures, transparency, law and investor protection among others.

While extensive research has been conducted on the impact of IFRS adoption on accounting information quality (Barth, Landsman, & Lang, 2008; Christensen, Lee, Walker, & Zeng, 2015; Ahmed, Neel, & Wang, 2013; Ebaid, 2016), results have been mixed with some researchers concluding that there is a positive relationship between accounting information quality and institutional quality (Korutaro Nkundabanyanga, Tauringana, Balunywa, & Naigo Emitu, 2013; (Ahmed et al., 2013) others discovering a negative relationship (Barth et al., 2008; Malagueño, Albrecht, Ainge, & Stephens, 2010; Christensen et al., 2015; (Ebaid, 2016) and still others finding no association (Christensen et al., 2015).

Some research also examine the effect of legal and disclosure environment on accounting information quality (Korutaro Nkundabanyanga et al., 2013; Dayanandan, Donker, Ivanof, & Karahan, 2016). On this issue they find that accounting quality is improved post-IFRS in French and Scandinavian (not German) civil law countries and not for common law countries. A further look at other factors of institutional quality examines firm-specific incentives such as strong monitoring mechanisms and find that reporting quality is enhanced by stronger monitoring mechanisms and stronger institutions (Isidro & Raonic, 2012). In examining institutional quality, extant research also considers political connections and their effects on accounting information quality (Chaney, Faccio, & Parsley, 2011; Mohammed, Ahmed, & Ji,

2017). Findings suggest that political connections are harmful to reporting quality even regardless of strong corporate governance structures.

Some studies analyse accounting information quality in respect of the capital market. Mc Innis (2010) attempts to establish whether smoothness of earnings affects cost of equity capital or average realized stock return while Callen et al. (2013) venture a step further to inculcate price delay in accounting information quality research. They find no relationship between smooth earnings and stock returns and a negative relationship between accounting information and price delay. Cahan et al. (2009) reason that while accounting information is impounded into stock price, the extent to which this information is reflected in stock price may differ from country to country. Furthermore, in studying the effect of income smoothing on the information content of stock price, Salehi & Manesh (2011) find that stock price of firms that have smoother incomes contain higher information on the future cash flows of the firms. Furthermore, research has established a relationship between institutional quality and stock market performance (Winful, Sarpong, & Agyei-ntiamoah, 2016) and shows that institutional quality is integral to the development of the stock market (Gani & Ngassam, 2008). The question of whether greater accounting information quality and quality of institutions improves stock returns remains a puzzle.

This study argues that institutional quality improves accounting information quality which in turn impacts on stock return. The study thus examines stock return effects of accounting information and institutional quality. Specifically, the study evaluates two related hypotheses. First, institutional quality improves accounting information quality. Secondly, improved accounting information quality and institutional quality

increases stock return. To the best of my knowledge no previous studies have investigated both hypotheses. However, some studies have analysed the effect of accounting information quality on stock return contributing to the literature on the relationship between accounting information quality and stock market returns (Dechow et al., 2014; Callen et al., 2013; Mc Innis, 2010). Furthermore, Bao and Lewellyn (2017) argue that while most research either examine firm-level characteristics on a single country level or macro-level characteristics in multiple countries, it is necessary to examine the firm behaviour while incorporating the effect of the national environment in which the firm operates. The thesis builds on this by examining stock return in relation to both accounting information quality (firm-level) and institutional quality (country-level).

1.3 Research Objectives

The main objective of this study is to determine the extent to which accounting information and institutional quality determine stock returns. In particular, the study seeks to:

- i. measure persistence, conservatism and earnings management as the components of accounting information quality.
- ii. examine the stock return effect of accounting information and institutional quality.
- iii. analyse the sensitivity of stock return to accounting information and institutional quality.

1.4 Significance of the Study

This study is significant along three strands. These are to research, to policy and to practice. This study contributes to the scope of knowledge on stock return, accounting information quality and institutional quality by shedding more light on how accounting information and institutional quality affect stock return. Furthermore, to policy, the insights provided by this study will be useful to policy-makers and standard-setters with regards to the formulation and implementation of policies that will shape accounting information and the institutional environment of the countries involved in the study. Finally, this research will contribute to practice by providing managers with an understanding on how accounting policies can be selected to provide more reliable accounting information and investors will gain more insight into the role of institutions and accounting information in determining stock returns which can aid in assembling their investment portfolio.

1.5 Organization of the Study

This study is organized into five chapters. Chapter one forms an introduction to the study which serves to set out the background to the study, the research problem driving the study and clearly states the objectives of the study. It also provides insight as to the significance and organization of the study. Chapter two provides a detailed review of the theoretical and empirical literature on accounting information quality, institutional quality and stock market return. This process assisted in the identification of the gaps this study sought to fill. In chapter three, the researcher presents the methodology employed in carrying out the research. Chapter four shows the results of the study and provides a discussion thereon. Finally, chapter five presents a summary of the study accompanied by conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviews relevant literature in the subject area. It begins with the theories underpinning the study and continues with a discussion of empirical literature addressing accounting quality, institutional quality and stock return.

2.2 Theoretical Review

The theoretical literature underlying accounting information quality, institutional quality and stock return of firms can be described either in terms of the information asymmetry theory, institutional theory or efficient market hypotheses. The information asymmetry theory posits that partakers of a market will behave or make decisions based on the information available to them. Information asymmetry exists when one party has more information than another and can take advantage of such information to influence an outcome. Akerlof (1987) concludes that making the distinction between a product of good quality and one of poor quality is an innate difficulty in the world of business. This highlights the need for the establishment of institutions that regulate the behaviour of market participants in order to reduce information asymmetry.

Richardson (2000) hypothesizes that the level of information asymmetry relates positively to the level of earnings management. This is because the lack of information and accountability allows managers to apply their discretion and manipulate earnings to their advantage. Therefore, if managers are not sufficiently motivated or broader mechanisms are not instituted to monitor them, they may

manage earnings which would affect the quality of accounting information being produced. While it is difficult to completely eradicate information asymmetry, the presence of standards and regulators has helped enhance the credibility of management disclosures (Healy & Palepu, 2001). Managers are obliged to comply with these regulations and as such their discretionary powers are limited.

Secondly, institutional theory is examined in an attempt to explain firm behaviour. Institutional theory addresses the phenomenon whereby structures, rules, norms and routines become entrenched in society as sources of authority for guiding behaviour (Scott, 2008). DiMaggio and Powell (1983) argue that while organizations behave differently from one another in the initial stages of operations, the more they become established the more they become homogenous. This is because the environment within which the firm operates becomes more structured and thus they begin to behave more similarly to one another. This phenomenon is known as isomorphism. It is the process that compels one member of a population to reflect other members given the same environmental circumstances (Hawley, 1968).

DiMaggio and Powell (1983) identify three forces external to the organization that influence behaviour. Coercive isomorphism results from formal and informal pressures exerted on the organization by outside organizations on which the organization depends. These could be government mandates, legal requirements and regulatory requirements. For example, organizations would pay their annual taxes because they are required to do so by law. Mimetic processes are proof that not all firm behaviour is influenced by coercion. Here, organizations try to imitate the actions of firms they consider more successful or legitimate. This is commonly seen

in the parent-subsidary relationship where subsidiaries adopt the practices of the parent. This is also largely due to uncertainty in the market. Thirdly, normative pressures arise mainly from professionalization. Here, members of a similar profession appear to collaborate to establish the conditions of the profession and approaches adopted in their activities. Unlike coercion, where force or authority is the main driver of behaviour, normative isomorphism, on the other hand, stems from organizations having a mutual goal of security and public recognition.

Finally, efficient market hypothesis is discussed. Efficient market hypothesis addresses the extent to which securities in a market reflect available information. In an efficient market, prices of securities always rapidly and fully adjust to reflect their true value. Therefore under such conditions no investor who has the same information available to other market participants will be able to identify wrongly valued securities (Saari, 1977). Efficient market hypothesis identifies three forms of market efficiency. These are weak form efficiency, semi-strong form efficiency and strong form efficiency.

Under weak form efficiency, all historical information is already contained in security or stock price. It is therefore unrewarding to predict future stock prices based on such past information such as information contained in past annual reports. The second form of market efficiency is semi-strong efficiency. Here, prices reflect all public information, both historic and current. Prices will only be affected by the arrival of new information. According to Deegan (2010) this is most pertinent to market research in accounting as it relates to publicly available information. Finally, under strong form efficiency, prices reflect all information – past, public and private. It

assumes that all information possessed by anyone at any point in time is incorporated in prices. There exists an economic temptation to uncover and trade on any information that is not already impounded into prices. Accounting information quality is important because if markets are efficient, every piece of information such as earnings will be exploited in predicting future earnings and thus current price. This is especially true since accounting figures are a major source of information to investors (Novak, 2008; Deegan, 2010).

2.3 Empirical Review

2.3.1 Accounting Information Quality

Dechow et al. (2014) describe earnings announcements as the principal medium through which investors (and other stakeholders) receive intermittent updates about the condition of a firm. It follows that, for that information to serve its purpose of being a useful decision-making tool, it must be a faithful representation of the true state of the firm and reflect all information that could be deemed material by users. Furthermore, Penman & Zhang (2002) judge accounting information to be of superior quality when earnings reported are a good indicator of future earnings. A seminal paper by Beaver (1968) shows whether earnings announcements contain any news at all. In that, the paper seeks to establish whether or not earnings announcements significantly affect a firm's trading volume or share price movement. His results suggest that earnings do de facto convey new information to users.

More recently, a replicate of the study by Dechow et al. (2014) showed that trading volume increased by approximately more than one hundred per cent surrounding earnings announcements thereby supporting the original findings of Beaver (1968).

These results held for stock returns as well. Thus, earnings are said to be of high quality when earnings contain less noise or convey information about a firm's future earnings and cash flows. By making reporting decisions that disguise a firm's true economic position, managers report poor quality accounting information (Kanagaretnam, Lim, & Lobo, 2014).

While the above-mentioned studies show that earnings information is of importance to users, it does not show how this information is used. Ball and Brown (1968) show that although the earnings number is used by investors, it is a source of information that is not highly regarded. This is because other information released earlier is considered more timely and hence, users place higher premium on them. Again, the study was replicated by Dechow et al. (2014) and yielded very similar results.

Christensen et al. (2015) examine three facets of accounting quality, specifically, earnings management, timely loss recognition (or accounting conservatism) and value relevance. These are frequently employed when studying the effects of accounting standards on accounting quality (Barth et al, 2008; Gassen & Sellhorn, 2006 and Hung & Subramanyam, 2007).

Earnings Management

Earnings management refers to the act of manipulating reported earnings by managers in order to meet objectives. Shipper (1992) describes it as management's deliberate involvement in the reporting of financial performance in order to gain some private benefit. Earnings management takes place when, through the discretion allowed by the financial reporting process, managers mislead interested parties or sway some

contractual rewards which are based on reported figures (Healy & Wahlen, 1999). In other words the latitude provided by measurement and disclosure criteria stipulated in various financial reporting standards allow managers to take advantage of a number of legitimate alternative treatments in order to provide accounting information that best favours them. (Adibah Wan Ismail, Anuar Kamarudin, van Zijl, & Dunstan, 2013) confirm this by highlighting the role and function of reported numbers as the rationale behind managers' motivation to manipulate them. For instance, these numbers are commonly tied to bonuses, debt covenants, stock valuation for initial public offerings and so on. This behaviour results in a departure of reported earnings from the true performance of the firm and hence, firm's that report managed earnings are reporting poor quality accounting information.

Typically, managers take advantage of accruals in reporting to manipulate their firm's earnings. Accounting standards require that the effects of transactions are accounted for in the period in which they occur even if the consequent cash flows occur in a different period. However, accruals contain measurement errors and do not always translate into cash flows. According to Dechow and Dichev (2002), cash flows that do not result from accruals are of less quality. This opens up a discussion in research as to whether investors accurately price these accruals.

Studies document that firms report higher than expected results, therefore, avoid negative shocks to investors (Gisbert & Garcia, 2017). While studies have been conducted to test whether managers are able to get away with earnings management practices on the stock market, no consensus has been established. Sloan (1996) and Xie (2001) find that capital markets can be deceived using these techniques such that

managers are able to influence their own stock prices in their favour whereas Subramanyan (1996) and Shivakumar (2000) find contradictory evidence of this. Myers, Myers, & Skinner (2007) find that firms that continuously meet or exceed previous year earnings targets or analysts' expectation are compensated with higher valuations even if they manage earnings to do so.

Conservatism

Accounting conservatism or timely loss recognition, according to Basu (1997) and Ball & Shivakumar (2005), is the bias in formally recognizing bad news faster than good news. While accrual accounting calls for the recognition of expected upcoming benefits and obligations, accounting conservatism results in many indeterminate benefits or obligations being excluded or understated (Dechow et al., 2014). According to Penman & Zhang (2002) conservative accounting is when managers select accounting methods that maintain a relatively low book value of net assets. They argue that a combination of choices in estimates and activities could have an effect on reported earnings. For instance, a conservative firm that engages in higher levels of investment may understate the gains of those investments thus understate earnings. This creates reserves that can be used to create additional earnings in future.

However, if these accounting treatments are temporary, their effects may be reverted in future periods. Hence, relying on the figures reported to obtain an idea of future figures would be misleading. In that instance, the accounting information is said to be of poor quality. Reported earnings are therefore seen as an untimely source of information (Ball & Brown, 1968; Beaver, Lambert & Morse, 1980). For instance, under conservative accounting, sales cannot be recognised until the transaction has

taken place no matter how highly anticipated they are. However, the rationale behind conservatism stems from the asymmetric impact associated with compensating stakeholders for the provision of misleading information (Francis et al., 2004).

Persistence

On the matter of persistence of earnings, much of the research focuses on the utility of reported accounting information to equity investors for valuation (Dechow et al., 2010). The assumption concerning earnings persistence is that, organizations with more persistent earnings would have a steady inflow of income which makes it more useful for discounted cash-flow valuations. Therefore the more persistent earnings are the more value relevant they are. When presented results appear to be recurrent and sustainable the accounting information is said to be of good quality (Leal et al., 2017). Earlier studies provide evidence that persistence yields positive stock returns (Kormendi & Lipe, 1987; Collins & Kothari, 1989; Easton & Zmijewski, 1989).

Where persistence is used as a measure of firm performance, one question that dominates research is the question of which measure provides more information. The comparison is commonly done between earnings and cash-flows. By analysing the R-squared of annual regressions of returns on earnings or on cash flows, Dechow (1994) finds that the explanatory power of earnings supersedes that of cash flows. This is because earnings contain more information in the form of accruals which cannot be found in cash flows but have been found to improve earnings usefulness in the short-term. Furthermore, compared to dividend, earnings were still found more useful.

2.3.2 Institutional Quality

Managers of firms prepare accounting information in order for users to make informed decisions based on the information provided. However, the information is prepared and provided within a certain context. This context comprises the policies, practices, rules and norms prevalent in the country in which a firm operates (Scott, 1987). This is what is referred to as a country's institutional environment and it impacts on firm behaviour. Scott (1987) is of the view that a firm's structure and practices are shaped by the institutional environment in which it operates. Furthermore, differences in institutional contexts result in variations in the demand for accounting information and hence, disparities in the quality of the accounting information provided. The implication is that the quality of accounting information provided would to a large extent be influenced by the quality or strength of the institutions of the country in which their firms operate. This is echoed in literature as researchers suggest that accounting information quality should be examined in context (Cahan et al., 2009; Dechow, Ge & Schrand, 2010; Leal et al., 2017; Kanagaretnam et al., 2014).

Most international studies do not explore the impact of institutional factors (at a country level) and company reporting incentives (at a firm level) on financial reporting in a setting with constant accounting standards (Isidro & Raonic, 2012). As mentioned above, earlier investigations (e.g., Burgstahler et al., 2006) suggest that institutional factors have a part in determining the reporting habit of firms however, they provide little understanding into the comparative importance of firm-specific as against country-specific factors on reporting quality.

The aim of International Financial Reporting Standards (IFRS) adoption is to improve the quality of accounting information and extensive research has been undertaken to examine whether or not this aim has been achieved by adopters. The results of this research have yielded mixed conclusions. Some researchers find that adoption of IFRS improves accounting information quality (Korutaro Nkundabanyanga et al., 2013; Adibah Wan Ismail et al., 2013). Korutaro Nkundabanyanga et al. (2013) sought to investigate if there exists an association between accounting standards, legal framework and the quality of financial reporting. The study, carried out in the context of a government department, found that perceived compliance to accounting standards is positively associated with the legal environment within which an entity is navigated and the quality of its financial reporting. These results support the intuition that the degree to which accounting standards are enforced and law and order are upheld should enhance the quality of financial information provided by these entities.

Another study by Adibah Wan Ismail et al. (2013), demonstrates that the adoption of IFRS improves accounting information quality. An examination of earnings management and value relevance of reported earnings for a sample of Malaysian firms both pre and post IFRS adoption shows that earnings management was reduced significantly and value relevance improved after the adoption of IFRS in 2005. Consequently, research suggests that inasmuch as IFRS adoption improves transparency in financial reporting, it should also attract businesses and individuals to the country and therefore improve foreign direct investment (Gordon, Loeb, & Zhu, 2012). In particular, countries characterised by high opacity in financial reporting are better positioned to benefit from the adoption of IFRS and its attendant benefits such as increased foreign direct investment.

Conversely, others find the opposite (Barth et al., 2008; Malagueño et al., 2010; Ahmed et al., 2013; Christensen et al., 2015; Ebaid, 2016). Ahmed et al. (2013) highlight that for the adoption of IFRS to improve the quality of reported earnings, the standards must be of better quality than the locally practiced Generally Accepted Accounting Principles (GAAP). To this end, IFRS must therefore reduce the level of discretion and judgement available to management or preclude earnings smoothing or overstatement. In a bid to determine whether the objective of IFRS, that is, improving accounting information quality has been achieved, Ahmed et al. (2013), compares the accounting information quality of twenty countries adopting IFRS to fifteen countries maintaining local standards. Results show a significant increase in income smoothing and accrual aggressiveness accompanied by decreases in timely loss recognition for firms in the pro-IFRS sample relative to the benchmark firms. Earnings management showed no change in the pro-IFRS sample. They find that their results are particularly true for environments with strong enforcement mechanisms.

Furthermore, Christensen et al. (2015) find no association between accounting information quality and IFRS adoption. Their study focused on whether firms adopted IFRS voluntarily or under coercion. A sample of German firms showed that accounting information quality in the form of earnings management, timely loss recognition and value relevance improved following voluntary IFRS adoption. Conversely, firms that waited until the last minute to adopt IFRS reported no improvements in the quality of the accounting information they provided. This shows that between better quality standards and management incentives, the latter is a more forceful determinant of accounting information quality. In that, do firms adopting IFRS have internal motivations to distribute better quality accounting information?

Ebaid (2016) concludes that adoption of IFRS did not improve but rather reduces accounting information quality because there were no institutional improvements to support the adoption. In other words, there is a limit to which accounting standards in themselves improve accounting information quality for useful decision-making. The investigation was carried out in Egypt to determine whether earnings management was reduced by the adoption of IFRS. By examining earnings management pre-IFRS adoption and post-IFRS adoption, taking into account the fact that Egypt is a code-law country, Ebaid, (2016) finds that accounting information quality has reduced post-IFRS adoption. Specifically, earnings smoothing and management of earnings to meet a target were found to have increased post-IFRS adoption in Egypt. This positively affirms the question of whether incentives override standards in respect of accounting information quality.

Prior studies have also considered firm-specific motivations such as stronger monitoring processes, investor protection, corporate governance and political connection (Cahan et al., 2009; Isidro & Raonic, 2012; Chaney et al., 2011; Mohammed et al., 2017). These studies find that the aforementioned strongly influence the reporting behaviour of firms. Their arguments stem from the fact that universal adoption of higher quality accounting standards does not de facto guarantee better accounting information quality. As such Isidro and Raonic (2012) investigate the country and firm specific factors that influence accounting information quality in jurisdictions subject to the same accounting standards. A sample of non-financial firms across twenty-six countries were examined and findings indicate that strong monitoring mechanisms in the form of ownership concentration, analyst following, effective audit processes, demand for outside credit and leverage enhance accounting

information quality. However, accounting information quality is eroded in the face of volatile business activities, incidence of losses and high opacity in respect of disclosure.

At country level, firms operating in a setting of stronger institutions, increasing economic growth and globalised markets tend to produce higher accounting information quality. Combining the two levels of factors however, they find a stronger association between firm characteristics and accounting information quality than the country characteristics. This indicates that the country-wide factors are already inculcated into a firm's conditions.

Chaney et al. (2011) find that firms with political connections generally report poorer quality information measured using the level of discretionary accruals as compared to firms without these connections. A look at the association between investor protection and accounting information quality, specifically, earnings management by Leuz et al. (2003) shows that strong investor protection is positively associated with less earnings management. This is because the freedom of insiders to divert benefits towards themselves is curtailed by the systems that promote the interest of outsiders. For fear of facing disciplinary action by outsiders, insiders' (managers') incentive to manipulate earnings is curbed.

Corporate governance has also been seen to influence reporting behaviour of managers. Owners are encouraged to put in place mechanisms that will curb managers' opportunistic behaviour and hence cause them to report reliable accounting information (Ntow-Gyamfi, Bokpin, & Gemegah, 2015). Furthermore, research

suggests a positive association between corporate governance and conservatism (Mohammed et al., 2017). In a country where business operations are fraught with political influence, Mohammed et al. (2017) sought to investigate the relationship between accounting conservatism, corporate governance and political connections. While the first two variables have been variously considered in literature, the role of the third still remained a question although it is expected that political connections could be detrimental to accounting information quality. The study of two hundred and six Malaysian firms yielded results which showed that despite entrenched corporate governance mechanisms, political connections lead to poorer quality of accounting information in the form of less conservatism. However this did not necessarily adversely affect the performance of firms. This is because the politically-connected firms have access to resources available to enable them function properly and perform well.

From a broader perspective, it has been found that countrywide institutional factors influence accounting information quality. Recent studies have been conducted on the effect of legal and disclosure environment on accounting information quality. The results show that IFRS adoption improved accounting information quality in civil law countries but not common law countries (Korutaro Nkundabanyanga et al., 2013; Dayanandan et al., 2016). In a study of over three thousand firms across thirty-five countries, Dayanandan et al. (2016) find that the adoption of IFRS leads to a reduction in income smoothing and earnings management particularly for French and Scandinavian civil law countries albeit not necessarily in the case of German civil law and common law countries. The latter-mentioned countries are already characterised by stronger investor protection and law enforcement (La Porta, Lopez-de-Silanes,

Shleifer, & Vishny, 1998). This suggests that the additional security or quality intended by IFRS adoption may not make a difference in an environment with mechanisms in place to ensure accounting information quality.

Moreover, Kanagaretnam et al. (2014) investigate whether variations in countries' legal, extra-legal and political institutions affect the quality of earnings reported. Their study focuses particularly on banks. It is expected that stronger institutions compel managers to refrain from engaging in practices that result in their private gain as against the interest of other stakeholder and improve the credibility of financial statements. In this study, legal environment refers to the extent to which rule of law prevails in the country, the efficiency of the judicial system and law and order, extra-legal environment comprises competition, newspaper circulation and tax compliance and political institutions include political involvement, state ownership and business start-up costs. They find that stronger legal, extra-legal and political structures are positively associated with earnings persistence and negatively associated with earnings management.

Other aspects of a country's institutional environment have been examined in literature. One such dimension is the effect of corruption. Corruption has been described as the undue abuse of an advantageous public or private position to enhance one's position or to gain private benefits (Mauro, 1995). This behaviour is largely responsible for stagnation in the development of countries in which it is endemic. Examining a sample of thirty-four countries and using earnings opacity as a proxy for accounting quality, Picur (2004) find that the association between corruption and earnings opacity is positive and significant. This indicates that higher levels of

corruption are associated with poor quality accounting information. (Chaney et al., 2011) include corruption in their bid to establish the relationship between financial reporting quality and political connections. As can be expected, discretionary accruals are higher in countries with higher levels of corruption. Leuz et al. (2003) include corruption together with rule of law and efficiency of legal systems as a composite index of legal enforcement and find that stronger legal enforcement is negatively associated with earnings management. Based on the above review, the thesis tests the following hypotheses:

H1: Institutional quality influences accounting information quality.

2.3.3 Accounting Information Quality, Institutional Quality & Stock Return

As has been mentioned earlier, accounting information is useful to myriads of stakeholders for decision-making. This information is especially useful to capital market participants and as such it is a prominent area of research. According to Dechow et al. (2014), earnings announcements have been found to explain majority of the cross-sectional variations in stock returns. This is not surprising as these announcements are prime means of communicating financial information to investors. Furthermore, stock returns have been found to react in the periods immediately following earnings announcements. The post-earnings announcement drift is the phenomenon whereby abnormal stock returns tend to be positive in the months subsequent to positive earnings releases or the release of what is considered good news and negative in the months succeeding negative earnings releases or the release of what is considered bad news.

The classical theory of stock valuation posits that stock price is equal to the present value of future cashflows (Miller & Modigliani, 1961). In congruence with this, Kormendi & Lipe (1987) find that the relationship between earnings and stock returns is stronger when earnings are persistent, that is, when current earnings can predict future earnings. In a more recent study, Cahan et al. (2009) reason that the difference in the returns-earnings association across countries is due to differences in earnings quality and differences in the countries' institutional quality. After carrying out a study of thirteen countries, they find a stronger relationship between earnings and returns in environments with high investor protection and low opacity. Specifically, anti-director rights and legal enforcement measure investor protection whereas low opacity measures timely release of financial information and consistent analyst coverage. This implies that the usefulness of accounting information in the capital markets is more pronounced when institutions are stronger. To corroborate this, Winful et al. (2016) in a study of stock markets in forty-one emerging countries find that stronger institutions such as control of corruption is positively associated with stock market performance.

While one school of thought suggests that the manipulation of accounting information by managers is misleading to investors and will result in misguided stock return effects, others believe that it is way to convey managers' own inside information about the firm (Salehi & Manesh, 2011). This therefore, reconciles the information asymmetry between managers and other users of financial information, particularly, capital market participants. A study of non-financial firms on the Tehran Stock Exchange showed that income smoothing resulted in higher level of information reflected in stock prices (Salehi & Manesh, 2011; Whelan, 2004). This enables market

participants to make better-informed decisions about resource allocation. There is empirical evidence to suggest that managers who engage in income smoothing are rewarded with higher returns on the stock market. This gives managers the impression that investors perceive firms with smoother earnings to be less risky. On the other hand, Mc Innis (2010) finds no association between earnings smoothing and stock returns. Rather, results suggest that optimism on the part of investors resulting from smoother earnings is what drives higher stock returns.

The importance of timeliness cannot be over-emphasised when dealing with accounting information. Users require that information be received at a point when they can actually benefit from basing a decision on it. In that vein, the issue of conservative accounting is brought to the fore. This is because it relates directly with the timeliness of accounting information. Basu (1997) attempts to explicate the impact of conservative accounting on the link between earnings and prices. He shows that conservatism results in asymmetric timeliness between stock returns and earnings. In that, while large negative earnings realisations move in the same direction as negative stock returns, the positive earnings realisations that are positively associated with positive stock returns are small.

Zhu & Xia (2011) also seek to investigate the relationship between accounting conservatism and cumulative abnormal returns of stocks on the China Stock Exchange. The investigation was carried out on Chinese firms that were able to successfully complete the split-stock reform and re-opened their stocks for trading before December 31, 2006. Results show that conservatism is significantly and

positively associated with cumulative abnormal reports. In that, more conservative accounting will result in an inflow of surpluses to help achieve higher growth.

Penman and Zhang (2002) find that, although conservative accounting results in unsustainable earnings increases, the stock market does not price this unsustainability. Unlike Basu (1997) variation in net income approach to calculating conservatism, they construct a C-score around inventories, research and development and advertisement. The accounting treatment required for these items preclude them from managerial discretion. Results of their analysis showed that the stock market failed to see through the poor quality of earnings reported by the firms that combined conservatism with levels of investment.

Earlier studies also tried to establish the link connecting persistence to stock returns. Kormendi and Lipe (1987) show that the extent of stock returns reaction to earnings news is positively associated with the persistence of earnings. A further analysis of other components of earnings which are less persistent individually shows weaker stock return responsiveness (Fairfield, Sweeney & Yohn, 1996; Burgstahler, Jambalvo & Shevlin, 2002). Francis et al. (2004) find that persistence is strongly associated with cost of equity capital.

Another study by Florou and Chalevas (2010) sought to investigate the role of accounting information in determining stock value. This study also accounted for IFRS adoption in Greece. One argument advanced is that stock prices will respond to accounting information to the extent that the information presented deviates from expectations. Conversely, other arguments proposed suggest that users of the

information may not be sophisticated enough to make meaning of the numbers and as such respond appropriately to the information. Consequently, the question still remains of which specific accounting information affects stocks. Findings indicated that disclosures concerning operating performance, opportunities for growth and profitability affect stock returns. Specifically, return on sales, growth opportunities and operating performance measured as earnings before interest, tax, depreciation and amortization related positively and significantly with stock returns.

In relation to legal environment, authors have examined the impact of a firm's disclosure environment on its capital market participants. La Porta et al. (1998) find that investors are relatively strongly guarded in common law environments as against civil law environments. Furthermore, law enforcement is stronger in common law and German civil law countries relative to French civil law countries. Lambertides and Mazouz (2013) identified one focus of impact of disclosure environment on the stock market as whether or not the adoption of IFRS results in lower cost of capital and hence, higher returns. By examining a sample of over one thousand firms across twenty European countries, they show that the impact of mandatory IFRS adoption on cost of equity capital depends on country-specific factors. In particular, IFRS adoption increases the beta of stocks in common law countries hence, their return. The opposite is true for civil law countries. Their study focused on mandatory compliance since it is usually accompanied by strong monitoring and enforcing mechanisms. However, this does not necessarily address the issue of whether the increase in accounting quality is as a result of better quality standards or stronger institutions.

Furthermore, other studies have examined the effect of disclosure environment on cost of capital. For instance, Core, Hail, and Verdi (2015) investigate the relationship between disclosure quality, ownership and cost of capital. They use implied cost of capital and realised returns as proxies for cost of capital and include rule of law as a control variable. High disclosure quality reduces information asymmetry and the cost goal incongruence between insiders and outsiders. The variable rule of law, adopted from (La Porta et al., 1998) rule of law index, measures the effectiveness of the legal system. Their results show that disclosure regulation is negatively related to realised returns while legal quality is positively related to realised returns.

Gani and Ngassam (2008) investigate the role of institutional environment on the development of Asian stock markets. Among the various institutional factors examined, they find that rule of law is positively and significantly associated with stock market development. Thus, in countries where laws are observed soundly and the judicial system operates fairly, stock markets tend to show signs of development. An examination of corruption, however, provides results which indicate that the control of corruption in Asian economies does not aid in the development of stock markets. Additionally, Pellegrini, Sergi, & Sironi (2015) performed a similar study with a focus on Eastern European countries. Their results suggest that the control of corruption has a negative impact on stock returns. A low level of corruption typically suggests a high governance index and such environments are deemed more reliable than those with lower governance scores. As such investors in such areas require a lower return in exchange for the low level of risk they take on. This however, is true for in the long run. When the effect of recessions is excluded by considering the short run, less risky investments will offer a higher return.

Other studies have examined the effect of a country's bureaucratic quality on stock returns. Bureaucratic quality describes the resilience of policies in light of shifts in political power. It encompasses the quality of structures implemented to oversee the administration of policies as well as the level of expertise of policy-makers. The role of bureaucracies in an economy has led to various investigations in literature. Governments enact various policies in order to aid the achievement of goals and to further economic development (Brogaard & Detzel, 2015). Naturally, changes in government may result in reversals of previous policies, especially if those policies are not in congruence with the new government's purposes. This is particularly prevalent when new information arrives to suggest that a change in policy will be more beneficial or in response to public outcry (Lam & Zhang, 2015).

Lam and Zhang (2015) investigate the how policy instability is incorporated into interest rates. Specifically, they refer to policy instability as how prone current policies are to change in light of shift in political power. These policy reversals result in policy instability and lead to increased volatility in firms' cash flows and subsequently increases the risk premium on equity instruments (Perotti, 1995; Pástor & Veronesi, 2013). Their results suggest that depending on investors' view of the policy reversal, it may lead to an increase or a decrease in interest rate spread and volatility. In particular, policy reversals that are credible, predictable and timely are better received and result in reductions in interest rate spread and volatility and subsequently, higher stock returns, vice versa.

Another dimension of research also examines economic policy uncertainty and its effect on returns. Brogaard and Detzel (2015) suggest that economic policy uncertainty is useful in forecasting excess log returns on stock markets. Specifically, they find that the extent to which the effect of a policy is unknown commands a negative risk premium on stock returns. This is likely to occur when the risk associated with the unexpected consequence of the policy outweighs its benefits. This is in line with the suggestion of Pástor and Veronesi (2013) that higher exposure of a firm to economic policy uncertainty increase expected returns however this is state dependent and may have the opposite effect.

In determining the factors that drive firm-level stock returns Vuolteenaho (2002) finds that they are principally motivated by shocks to cash-flows. This is true for both log returns and market-adjusted log returns albeit more pronounced in the latter measure. The study of publicly traded US stocks also showed that stock return is positively associated with cash-flow news. In that, good news normally resulted in higher than expected returns especially for small stock. The study also suggests that cash-flow news can be more easily diversified away so its effect in a well-balanced portfolio was not so pronounced. This implies that stock return is more largely influenced by systematic factors and not firm-specific drivers, part of which cash-flow news is comprised.

Ogneva (2012) advances a similar argument by proposing that cash-flow shocks influence efforts to establish the relationship between accrual quality and realised returns on stocks. This is because higher expected returns resulting from poor accrual quality is countered by the negative cash-flow shocks associated with poor accrual

quality. Therefore the relationship between accrual quality and returns can be properly established after controlling for cash-flows shocks (that is, a reaction of stock price resulting from an adjustment of the prospect of the imminent stream of cash-flows). Using accrual quality beta factor as the measure of accrual quality with a higher factor indicating low accrual quality, vice versa, and by decomposing returns to exclude cash-flow shocks, Ogneva (2012) finds that low accrual quality stocks are associated with significantly higher returns while the opposite is true for high accrual quality stocks. The thesis therefore seeks to test the following hypotheses:

H2: Accounting information quality and institutional quality influence stock return.

H3: Institutional quality affects the relationship between accounting information quality and stock return.

In summary, extant literature suggest that the institutional environment in which accounting information is prepared may affect its quality (Christensen et al, 2015; Mohammed et al, 2017; Dayanandan et al, 2017). Literature also establishes the importance of accounting information quality in relation to capital markets (Kormendi & Lipe, 1987; Dechow et al, 2014). However, there are calls for research to establish how institutional quality affects the link between accounting information quality and stock return while considering the interplay between firm behaviour and national institutional elements (Song, 2015; Bao & Lewellyn, 2017). This thesis fills this gap in research.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the method employed to achieve the stated objective. That is, determining the extent to which accounting information and institutional quality determine stock return. It discusses various data sources, variable measurement, model development and concludes with the estimation strategy.

3.2 Research Paradigm

A research paradigm encompasses a set of assumptions concerning phenomena. A research paradigm determines the object of research conducted based on one's beliefs, values and techniques (Kuhn, 1970). The research paradigm comprises the ontology, epistemology and axiology. These assumptions influence the research process (Saunders, Lewis & Thornhill, 2007).

Ontology refers to the nature of reality. It seeks to clarify whether phenomena are independent of the social actors who experience them or whether phenomena are a consequence of the actions of social actors. From these worldviews objectivism and subjectivism are derived. Objectivism holds that phenomena exist or occur independently of social actors. It embraces the notion of a distinct reality. On the other hand, subjectivism holds that phenomena are the result of the perceptions and actions of social actors. It emphasises reality as a continual process evolving as social interaction evolves. The lens of subjectivism sees reality as the product of prognosis of man's imagination (Bahari, 2010). Objectivism highlights the importance of researching the nature of the relationship among elements in their constituents.

Considering that the purpose of this thesis is to establish the relationship between among accounting information quality, institutional quality and stock return, this outlook is adopted.

Epistemology questions what forms or what should be regarded as valid knowledge within a field of study (Bahari, 2010). It also involves the process by which said knowledge is acquired. A positivist perspective assumes facts which are separate from the researcher's beliefs and are external to any meanings driving human behaviour. Conversely, an interpretivist perspective advocates the need for the researcher to investigate human behaviour fully as actions may be mediated by the meanings behind them. The perspective of this thesis assumes that reality can be observed and the results of such observation can be used to make generalisations. Furthermore, the research is carried out in a value-free manner. The objectivist and positivist paradigm are suitable as this thesis seeks to determine the relationships that affect stock return.

3.3 Research Approach

This study employs a quantitative research design. Quantitative research allows the measurement and analysis of the relationships between isolated variables using statistical tools (Yilmaz, 2013). This is in line with the objective of this study which is to analyse the extent to which accounting information and institutional quality influence stock return. This approach also allows for an objective assessment of large representative samples in order to obtain generalizable findings. Furthermore, the study employs panel data. This means that sample members were studied over a number of years. This is unlike cross-sectional data where diverse variables are studied for a single year or time series where one firm is studied over a number of

years. Using panel data allows for the control of some unobserved characteristics and can improve causal inferences (Wooldridge, 2012).

3.4 Data Sources

The study employs financial data of selected listed firms in selected countries. This information is sourced from Datastream. The sample includes industrial, healthcare, consumer services, consumer goods, technology, basic materials, oil and gas and telecommunications firms for the period from 1995 to 2013 with accounting information available. Datastream is a source for economic time series of more than 162 markets with comparable data to allow for insightful analysis. Macro-economic data are sourced from the World Bank: World Development Indicators Database. The World Development Indicators are compiled from officially recognised international sources to present the most up to date and precise global development data with national, regional and global estimates. A number of indices are used to assess the institutional environment of the selected countries. These indices are obtained from the International Country Risk Guide. The International Country Risk Guide is designed to analyse potential risks faced by international organizations. Since share-issuing companies share these risks, it provides an appropriate source of institutional data to analyse stock market behaviour (Lehkonen & Heimonen, 2015).

3.5 Variable Measurements

Accounting Information Quality is measured using earnings persistence, accounting conservatism and earnings management.

3.5.1 Earnings Persistence

The persistence of accounting earnings is useful for evaluating the performance of a company. Earnings persistence measures the extent to which current figures will be repeated in the future. According to Dechow and Schrand (2004), earnings persistence will only meaningfully represent earnings quality, or in this case, accounting information quality if current performance is accurately represented in earnings and additionally recurs in future periods.

The importance of earnings persistence rose with corporate scandals such as the one concerning Enron. While users desire current figures to help evaluate the health of a firm as discussed above, the opposite was the case for Enron. The true state of the company was not reflected by its results.

Investors particularly view the ability of a company's earnings to persist into future periods as indicative of a stable environment. This is found to be desirable. Furthermore, it is assumed that earnings that are persistent tend to provide superior input for equity valuation purposes (Dechow et al, 2010). It is important, however to draw distinctions between earnings and cash flows. Variation in earnings persistence across various firms is a function of accruals. These accruals tend to amortize cash flow variances, resulting in a more relevant figure to investors than cash flows according to Dechow and Skinner (2000). In literature, the main distinction between earnings and cash flow is the presence of accruals. Therefore, $\text{Earnings} = \text{Cash Flow} + \text{Accrual Adjustments}$.

Similar to earnings, an item of cash flow is considered persistent if previous figures can be used in predicting it effectively. The following model is used to analyse

persistence (Dechow & Schrand, 2004). The current year values are regressed on the previous year values.

$$X_{ijt} = \beta_0 + \beta_1 X_{ijt-1} + \varepsilon_{ijt} \quad (3.1)$$

$$CF_{ijt} = \beta_0 + \beta_1 CF_{ijt-1} + \varepsilon_{ijt} \quad (3.2)$$

Here, X_{ijt} represents operational earnings of firm i in country j at time t while X_{ijt-1} represents the lag of operational earnings of firm i in country j . CF_{ijt} shows operational cash flows of firm i country j at time t and CF_{ijt-1} shows the lag of operational cash flows. The coefficient of the lag of operational earnings and operational cash flows is the indicator of persistence. It is included to show the extent to which previous earnings or cash flows will be repeated in current earnings or cash flows. A higher coefficient therefore, indicates higher persistence

3.5.2 Accounting Conservatism

Accounting conservatism has been described in research as the predisposition to acknowledge bad news more speedily than good news (Basu, 1997; Ball et al., 1999; Ball & Shivakumar, 2005). One result of this is that the reported value of net assets of a firm tend to be lower than the economic value of said net assets of the same firm (Ruch & Taylor, 2015). This produces earnings that reflect bad news faster than good news and culminates in differences in earnings reported in periods of good news and in periods of bad news in terms of time and persistence (Basu, 1997). It is a firm's way of adopting a worst-case scenario approach to financial reporting which invariably results in the understatement of assets and the overstatement of liabilities.

Accounting conservatism is seen by the Financial Accounting Standards Board (FASB) as the provision of information to stakeholders in a timely manner so as to improve economic decision-making. However, the bias in giving priority to bad news over good news may result in revenue shifting and hence may affect the persistence of earnings or cash flows. Indeed some researchers (Bandyopadhyay et al., 2010; Chen, Folsom, Paek, & Sami, 2014) find evidence to this effect.

The econometric model proposed by Ball & Shivakumar (2005) is utilized to compute accounting conservatism. This is based on Basu (1997) piecewise linear regression.

$$\Delta NI_{ijt} = \alpha_0 + \alpha_1 D\Delta NI_{ijt-1} + \alpha_2 \Delta NI_{ijt-1} + \alpha_3 (D\Delta NI_{ijt-1} \times \Delta NI_{ijt-1}) + \varepsilon_{ijt} \quad (3.3)$$

ΔNI_{ijt} , which represents change in Net Income, is measured as change in a firm i 's income between current period (t) and previous period ($t-1$) in country j . Dummy net income, $D\Delta NI_{ijt-1}$, is a dummy variable with a value of 1 if the change in income in the previous period is negative and 0 otherwise. Lag of change in net income, ΔNI_{ijt-1} represents the change in income between previous period ($t-1$) and last two periods ($t-2$). $D\Delta NI_{ijt-1} \times \Delta NI_{ijt-1}$ reflects the interaction of dummy change in net income with the lag of change in net income. It is of importance to note that all variables are scaled by the total assets at the commencement of the accounting period.

The hypothesis underlying this model is that conservative firms that report negative earnings tend to experience a reversal of those negative earnings in future periods. Hence, timely recognition of losses should result in a coefficient of the interaction term being less than 0 implying that negative earnings resulting from conservative accounting practice are not persistent and will therefore revert in future periods.

Furthermore, the sum of the coefficients of change in net income and the interaction term is expected to be less than zero.

3.5.3 Earnings Management

Accounting standards provide managers with discretion in choosing accounting policies. Exercising this discretion allows them to influence earnings in order to meet stated objectives. Earnings management is a response to company incentives (Burgstahler et al., 2006). Accounting manipulation is considered a method of distorting communication to interested parties.

According to Paulo (2007) there are several models for calculating earnings management. The Jones model, the Modified Jones model, the Forward Looking Jones model and the Pae (2005) model are examples.

This study employs the Pae (2005) model to analyse discretionary accrual. This model is favoured above the Modified Jones since it circumvents the measurement error and interpretation difficulties arising from omitted correlated variables and subsequently improves the explanatory ability of the Jones model (Pae, 2005). Discretionary Accruals (DA) are defined as the difference between Total Accruals (TA) and Non-Discretionary Accruals (NDA). Therefore:

$$DA_{it} = TA_{it} - NDA_{it} \quad (3.4)$$

Total Accruals, as defined in Equation (3.5) is calculated using Equation (3.5) below:

$$TA_{it} = (\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta CD_{it}) - DEP_{it} \quad (3.5)$$

where TA_{it} is the Total Accrual of firm i in year t . ΔCA_{it} represents the change in current assets while $\Delta Cash_{it}$ is a measure of the change in cash and cash equivalents.

Conversely, ΔCL_{it} captures the change in current liabilities. Furthermore, ΔCD_{it} shows the change in debt in current liabilities. Finally, DEP_{it} measures the depreciation and amortization expense of a firm.

$$\frac{TA_{it}}{A_{it-1}} = \beta_0 \left(\frac{1}{A_{it-1}} \right) + \beta_1 \left(\frac{\Delta REV_{it}}{A_{it-1}} \right) + \beta_2 \left(\frac{PPE_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{CFO_{it}}{A_{it-1}} \right) + \beta_4 \left(\frac{CFO_{it-1}}{A_{it-1}} \right) + \beta_5 \left(\frac{TA_{it-1}}{A_{it-1}} \right) + \varepsilon_{it} \quad (3.6)$$

where A_{it-1} is the opening balance of total assets, ΔREV_{it} shows the change in revenue, PPE_{it} is gross property, plant and equipment. CFO_{it} represents current cash flow. CFO_{it-1} shows the lagged cash flow and TA_{it-1} , the lagged total accrual. This may also be referred to as the Jones model with cash flow and lagged accruals.

Conversely, Equation (3.5) does not represent a regression model. Its value is regressed in Equation (3.6). The fitted model then represents the Non-Discretionary (NDA_{it}) component of Equation (3.4).

The result of the computation of Discretionary Accrual is then used as a proxy for Accounting information quality. This is because of the capital market motivation behind earnings management. Managers engage in the manipulation of earnings to elicit a certain response on the stock market and possibly drive the value of their firms' stocks upwards. Furthermore, Dechow and Skinner (2002) find that managers whose compensations are based on stock performance are highly motivated to manage earnings. By using the measurement of earnings management as a proxy for accounting information, the study shows whether earnings management is rewarded in the form of higher returns. Therefore the dependent variable in Equation (3.8) represents Discretionary Accrual (Earnings Management).

3.5.4 Institutional Quality

A number of indices are employed to assess the institutional and political environment of selected countries. The power of policy enterprises to detect various types of exploitative conduct among firms and appropriately impose sanctions is determined by the strength and quality of a country's institutions. The study employs four indices obtained from the International Country Risk Guide (ICRG). These indices are *transparency*, *law quality*, *bureaucratic quality* and *legislative strength*.

Transparency represents the inverse of corruption found within the political system of a country. It encompasses corruption in the form of excessive patronage, financial corruption, nepotism, job reservations, close connections to political parties and so on. Countries with higher levels of corruption tend to exhibit lower earnings quality (Treisman, 2000; Picur, 2004; Malagueño et al., 2010). This variable captures the magnitude of private gain derived from the exercise of public authority.

Law quality represents the quality of the judicial system and how the law is observed and enforced in terms of neutrality and strength. In countries with low transparency (or high corruption) a lower level of adherence to accounting systems and processes can be expected. To understand *bureaucratic quality*, the characteristics of administrative infrastructure and the level of expertise exhibited by bureaucrats are examined. It also includes the strength of policies to withstand reversals in times of changes in government. Policy instability leads to lower stock returns and higher volatility among stocks in underdeveloped economies.

Legislative strength focuses on the laws that have been enacted. It examines the relevance of the laws to the circumstances in the country and their quality. These

indices are measured using values. Higher values indicate higher levels of institutional quality in a country. To measure transparency and law quality the values range from zero to six whereas bureaucratic and legislative strength values range from zero to four.

3.5.5 Stock Return

Stock returns are measured by taking the log return of stocks. This method takes into account the inter-temporal changes in stock returns. Therefore:

$$SR_{it} = \ln\left(\frac{SP_{it}}{SP_{it-1}}\right) \quad (3.7)$$

where SR_{it} is the stock return of firm i in year t , SP_{it} is the stock price of firm i in year t , SP_{it-1} is the stock price of firm i in year $t-1$.

3.5.6 Control Variables

Firm level variables are included in the model to explain variation in accounting information and quality and stock return. Firm size controls for the effect of size on accounting quality as size is believed to negatively affect discretionary accruals. This is measured as the natural logarithm of total assets at the year end (Sanchez & Sierra, 2001). The leverage of the firm is also included as a control variable and is calculated as the ratio of debt to equity. A measure of the quality of accounting standards is also included in the analysis as this is believed to positively influence accounting information quality. This is a dummy value of 1 if International Financial Reporting Standards are adopted by the firm and 0, otherwise. The control variables included in the study to explain variations in macroeconomic environments are GDP growth, inflation and interest rates. GDP growth encapsulates the potential influence of the business cycle. The business cycle has been seen to influence stock returns (Hamilton

& Lin, 1996). Economic recessions explain over 60 per cent of disparity in stock returns. Inflation is defined as the annual rate of growth of the consumer price index (CPI). This is usually higher in relatively illiquid and smaller capital markets. Where inflation rates are higher, the real rate of return on money and other assets tends to be lower (Njindan Iyke & Ho, 2017). Interest rates have also been seen to play a key role in the determination of stock market prices. However, extant literature has been inconclusive on the direction of the relationship (Njindan Iyke & Ho, 2017). While some studies have found that higher interest rates reduce the present value of dividends thus depressing stock prices, others have found that a change (decrease) in interest rate causes market participants to anticipate a further change (further decrease) in interest rate. This makes fixed income securities appear more attractive to investors, hence a shift from investing in stocks to investing in fixed income securities leading to a fall in stock returns.

3.6 Model development and estimation strategy

The relationship between accounting quality and institutional quality is tested using a panel model. The model is expressed as:

$$AIQ_{ijt} = \alpha_0 + \alpha_1 INQ_{jt} + \sum_{j=2}^k \alpha_j X_{ij} + \varepsilon_{it} \quad (3.8)$$

Where AIQ_{ijt} measures Accounting Information Quality of firm i in country j at period t , INQ_{jt} is the institutional and political climate of country j at period t . X_{ij} is a group of $\{k\}$ variables to control for firm characteristics and individual countries' macroeconomic settings.

To test the relationship between stock return and accounting information quality and institutional quality, the following models are used:

$$SR_{it} = \alpha_0 + \alpha_1 SR_{it-1} + \alpha_2 AIQ_{it} + \sum_{j=3}^k \alpha_j X_{ij} + \varepsilon_{it} \quad (3.9)$$

$$SR_{it} = \alpha_0 + \alpha_1 SR_{it-1} + \alpha_2 INQ_{jt} + \sum_{j=3}^k \alpha_j X_{ij} + \varepsilon_{it} \quad (3.10)$$

Where SR_{it} measures Stock Returns of firm i at time t . AIQ_{it} measures Accounting Information Quality of firm i at time t , INQ_{jt} is the institutional and political environment of country j at period t . X_{ij} is a group of $\{k\}$ variables to control for firm characteristics and individual countries' macroeconomic settings.

To determine the sensitivity of accounting information and institutional quality on stock return, the following model is tested:

$$SR_{it} = \alpha_0 + \alpha_1 SR_{it-1} + \alpha_2 AIQ_{it} + \alpha_3 INQ_{jt} + \alpha_4 (AIQ_{it} * INQ_{jt}) + \sum_{j=5}^k \alpha_j X_{ij} + \varepsilon_{it} \quad (3.11)$$

The study employs the System Generalised Method of Moment estimator (System GMM). This is because Ordinary Least Square (OLS) will provide a dynamic panel bias in estimating equation (3.9), (3.10) and (3.11) since the dependent variable SR_{it} causes a correlation between prior observations SR_{it-1} and the error term. Furthermore, evidence suggests that in an effort to control for heterogeneity, OLS produces bias. Moreover, if substantial occurrences are not unequivocally specified, they will persistently be captured in the error. This will affect successive contemporaneous observations. This autocorrelation violates an assumption that is necessary for the dependability of OLS.

For these reasons, the study employs System Generalised Method of Moments as an estimator as suggested by Blundell and Bond (1998) is accepted. This addresses the sustained bias relating to endogeneity. Moreover, by introducing lagged observations as instruments rather than as regressors, using System GMM produces results that are more robust to missing data. Again, System GMM also creates the opportunity to include time-invariant repressors, for instance, specific regulators which would have otherwise disappeared in the first-difference GMM and is more appropriate given the number of countries in the study. In addition, System GMM uses a windmeijer correction to the standard errors which improves robustness to heteroskedasticity than that of Difference GMM.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.1 Introduction

This section presents results of the analysis of persistence, conservatism and earnings management as components of accounting information quality. The three earnings attributes mentioned above are analysed for the entire dataset which consists of over four hundred thousand firm-year observations across forty-five countries for the period 1995 – 2013 with accounting data available. The time period selected reflects a period of about five years after the early 1990/1991 recession and the 2007/2008 recession during which stock markets are expected to have been stabilised. The countries are grouped into regions to compare and analyse accounting information quality across different regions and investigate the relationship between accounting information quality, institutional quality and stock return. This approach allows for the effect of the varying degrees of accounting information quality and institutional quality across different regions to be accounted for in the analysis. The regional analysis results in five groups; Latin America, North America, Europe, Afro-Asia and Australia. This section also shows the results from examining how accounting information quality and institutional quality influence stock return and the sensitivity of accounting information quality and institutional quality on stock return. Again, the entire dataset is analysed as a whole and the various sub-regions, analysed in tandem.

4.2 Summary descriptive statistics

Tables 4.1 and 4.2 present the descriptive statistics of the major variables employed in the study. The firm-specific variables (table 4.1) are averaged by the firm for the period 1995 – 2013, whereas the variables representing country-level characteristics

(table 4.2) are averaged by the country over the same period. With respect to stock return, Latin American firms appear to record the highest returns with an average of 8.8% while North American firms record the lowest returns of -12%. This means that investors in firms operating in Latin America earn up to approximately 9% above their original investments while investors in North American firms make losses on their investments. The volatility of stock return as measured by the standard deviation averages between 50% to 60 % across all regions except North America. The volatility of stock return for North American firms is 84.7%. showing that returns are at a higher risk than in other regions.

The average values of earnings management show that Latin American firms record the largest negative discretionary accruals with an average of -0.597 This indicates that managers in such in such firms tend to manipulate earnings in such a way as to reduce income. One reason for managing earnings downwards could be to record losses for tax purposes in order to reduce a firm's income tax liability. Conversely, Afro-Asian firms on average record a positive discretionary accrual of 0.175 indicating that managers make decisions that tend to increase earnings. This give an impression of strong performance and managers with compensation packages tied to performance enjoy rewards as a result.

In terms of size, Afro-Asian firms are the largest with total assets averaging 1,687,607.28 thousand US dollars. With respect to leverage, the table shows that Afro-Asian firms are more highly geared than firms in other regions having an average debt to equity ratio of approximately 90%. According to Modigliani & Miller (1963), by increasing the level of debt financing in a firm, managers are able to take

advantage of the accompanying tax shields and therefore results in a reduced cost of debt. However, this leads to increased financial risk so shareholders require a higher return from such firms. On the other hand, European firms show an aversion to debt with a debt to equity ratio of about 40%.

Table 4.1 Firm-specific variables: means for the period 1995 – 2013

Table 4.1 presents the average values of firm specific variables. *Stock return* is the log return on firms' share prices. *Standard Deviation* represents the volatility of stock return. *Earnings management* (a measure of accounting information quality) is the average discretionary accruals and represents accounting information quality. *Size* is the average of a firm's total assets in US dollars. *Leverage* is a firm's ratio of debt to equity.

Countries	Stock Return	Standard Deviation	Earnings Management	Size (\$'000)	Leverage
Latin America					
Argentina	0.105	0.558	-0.389	766,297.50	0.720
Brazil	0.099	0.646	-1.990	2,182,061.00	0.566
Chile	0.049	0.390	-0.254	829,262.60	0.686
Colombia	0.115	0.550	-0.258	1,332,087.00	0.187
Mexico	0.054	0.469	-0.309	2,264,424.00	0.528
Peru	0.104	0.595	-0.383	317,846.30	0.391
Average	0.088	0.535	-0.597	1,281,996.40	0.513
Australia					
Australia	-0.088	0.701	0.124	401,155.50	0.393
New Zealand	-0.019	0.441	0.200	367,015.00	0.454
Average	-0.054	0.571	0.162	384,085.25	0.424
Europe					
Austria	0.000	0.384	-0.378	401,155.50	-3.334
Belgium	-0.047	0.443	-0.275	27,798.46	0.182
Czech Republic	-0.011	0.449	-0.401	569,426.30	0.335
Denmark	-0.046	0.501	-0.224	906,783.90	0.345
Finland	-0.029	0.482	-0.289	137,336.10	0.625
France	-0.049	0.539	-0.083	228,444.40	0.469
Germany	-0.071	0.589	-0.238	820,946.90	1.483
Greece	-0.130	0.720	-0.197	467.56	0.388
Hungary	-0.081	0.537	-0.320	762,637.80	0.230
Ireland	-0.073	0.585	-0.464	545,963.00	1.413
Italy	-0.108	0.555	-0.240	1,334.52	0.637
Netherlands	-0.059	0.526	-0.297	863,611.80	0.592
Norway	-0.109	0.711	-0.605	1,154,062.00	0.848
Poland	-0.047	0.711	-0.191	271,539.60	0.284
Portugal	-0.079	0.462	-0.345	2,189.10	1.152
Russia	0.052	0.676	-0.328	6,514,160.00	0.623
Spain	-0.042	0.417	-0.254	7,918.16	0.636
Sweden	-0.111	0.675	-0.137	799,726.80	0.414
Switzerland	-0.012	0.490	-0.274	2,515,168.00	0.431
Turkey	0.134	0.555	-0.211	642,404.50	0.223
United Kingdom	-0.104	0.670	-0.193	1,579,143.00	0.512
Average	-0.049	0.556	-0.283	892,962.73	0.404
Afro-Asia					
China	0.033	0.517	0.249	877,875.10	0.174
Hong Kong	-0.042	0.740	-2.372	1,420,932.00	0.364
India	0.011	0.673	0.681	373,989.90	0.652
Indonesia	0.092	0.630	-0.335	396,516.60	2.639

Israel	-0.051	0.622	-1.303	617,375.70	0.872
Japan	-0.056	0.441	-0.212	1,598,391.00	0.538
Malaysia	-0.041	0.476	-0.059	296,803.10	0.295
Pakistan	0.106	0.544	6.554	160,038.00	1.84
Philippines	0.08	0.588	0.151	484,762.20	1.289
Singapore	-0.047	0.583	-0.077	13,800,000.00	0.232
South Africa	-0.025	0.661	-0.170	645,615.00	0.609
South Korea	-0.002	0.616	-0.228	925,967.50	0.534
Taiwan	-0.026	0.527	-0.243	-	0.198
Thailand	0.089	0.529	-0.187	340,628.50	2.451
Average	0.009	0.582	0.175	1,687,607.28	0.906
North America					
Canada	-0.113	0.797	-0.113	491,653.60	0.163
United States	-0.106	0.897	-0.373	2,330,297.00	0.725
Average	-0.120	0.847	-0.243	1,410,975.30	0.444

Table 4.2 shows the average values of country-specific variables. These variables include bureaucratic quality (BQ), transparency (TR), law quality (LQ) and legislative strength (LS) and they represent a country's institutional environment. Interest rate, inflation and GDP growth account for its macroeconomic characteristics. The table indicates that on average Australia and North America show strong institutional quality in respect of bureaucratic quality with a perfect score of 4 and law quality with average score of 5.696 and 5.534 respectively. While Afro-Asia leads with regards to legislative strength with a score of 2.419, Australia closely follows with a score of 2.323.

In relation to Transparency, as the inverse of corruption, Australia and North America have the highest scores, 4.751 and 4.389 respectively, indicating lower incidence of corruption within the financial and political system. These countries are therefore more transparent. On the other hand, Latin America and Afro-Asia score the least indicating higher corruption and less transparency.

On average interest rates are higher for Latin American countries with an average of 13.723% over the period from 1995 to 2013 while it is lowest for North America over the same period. This indicates that the cost of borrowing money is higher in Latin

Table 4.2 Country-specific variables: averages for the period 1995 – 2013

Table 4.2 presents the average values of country-specific variables. *Bureaucratic quality (BQ)* and *legislative strength (LS)* values range from 0 to 4 while *corruption* and *law quality (LQ)* values range from 0 to 6. *Transparency (T)* is the inverse of *corruption*. *Interest rate*, *Inflation*, the annual consumer price index, *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price are in percentage terms.

Countries	BQ	T	LQ	LS	Interest Rate	Inflation	GDP growth
Latin America							
Argentina	2.940	2.441	3.139	1.966	2.474		3.484
Brazil	2.069	2.681	2.093	1.862	42.465	8.160	3.080
Chile	2.961	4.078	4.887	1.971	5.123	2.372	4.176
Colombia	2.063	2.622	1.653	2.004	9.123	6.973	3.953
Mexico	2.907	2.322	2.379	1.556	3.777	8.924	2.542
Peru	1.956	2.567	3.086	1.823	19.373	3.256	5.415
Average	2.483	2.853	2.873	1.864	13.723	5.937	3.775
Australia							
Australia	4.000	4.700	5.681	2.589	3.783	2.836	3.090
New Zealand	4.000	5.422	5.711	2.056	4.447	2.398	2.605
Average	4.000	4.751	5.696	2.323	4.115	2.617	2.848
Europe							
Austria	4.000	4.684	6.000	1.933	3.949	0.760	1.630
Belgium	4.000	4.005	5.070	1.936	6.256	2.008	1.868
Czech Republic	3.000	3.360	5.216	1.082	3.940	4.880	2.494
Denmark	4.000	5.669	6.000	1.652	5.963	2.123	1.415
Finland	3.973	5.958	6.000	2.077	2.910	1.692	2.523
France	3.299	3.829	5.020	2.017	5.102	1.560	1.723
Germany	4.000	4.775	5.292	2.090	5.980	1.522	1.338
Greece	3.000	3.031	4.059	1.963	7.292	3.407	1.200
Hungary	3.391	3.521	4.429	1.841	4.586	7.904	1.982
Ireland	4.000	3.387	5.990	1.906	2.243	2.550	5.000
Italy	2.680	2.737	4.531	1.975	4.155	2.315	0.571
Netherlands	4.000	5.460	6.000	1.486	2.106	2.140	2.297
Norway	4.000	5.089	6.000	1.753	2.125	1.984	2.087
Poland	3.008	2.626	4.434	2.150	7.810	3.693	3.938
Portugal	3.000	4.256	5.125	1.464	5.632	2.624	1.706
Russia	1.011	1.846	3.816	3.428	-1.409	11.313	3.961
Spain	3.249	4.026	4.791	1.528	4.588	2.759	2.225
Sweden	4.000	5.343	6.000	1.835	4.060	1.275	2.284
Switzerland	4.000	4.771	5.346	2.156	2.909	0.716	1.917
Turkey	2.040	2.501	4.078	2.356	0.000	22.668	4.324
United Kingdom	4.000	4.585	0.018	0.325	1.422	2.242	0.896
Average	3.412	4.253	4.915	1.855	3.887	3.911	2.256
Afro-Asia							
China	2.003	1.951	4.200	3.503	1.890	2.473	9.621
Hong Kong	3.020	4.034	4.925	2.865	5.730	1.771	3.806
India	3.000	2.434	4.000	2.228	4.282	8.352	7.157
Indonesia	2.094	2.355	2.845	1.880	3.588	9.249	4.927
Israel	3.993	3.235	5.000	2.161	4.316	2.594	4.238
Japan	3.987	3.571	5.209	2.172	2.898	-0.099	0.846
Malaysia	2.981	2.681	3.835	2.562	2.438	2.387	5.016

Pakistan	2.000	1.948	3.195	2.207	0	9.755	3.822
Philippines	2.894	2.217	2.648	1.789	4.297	4.784	4.778
Singapore	3.977	4.414	5.241	3.370	4.42	2.152	5.795
South Africa	2.112	2.863	2.413	2.294	5.863	6.098	3.153
South Korea	3.015	2.893	4.804	2.151	4.264	3.016	4.253
Taiwan	3.012	2.894	4.723	2.403	0	0	0
Thailand	2.097	1.897	3.233	2.276	4.342	3.065	3.686
Average	2.870	3.005	4.019	2.419	3.452	3.971	4.364
North America							
Canada	4.000	5.065	5.799	2.235	2.058	1.889	2.119
United States	4.000	4.128	5.268	2.117	3.527	2.369	2.209
Average	4.000	4.398	5.534	2.176	2.793	2.129	2.164

American countries while it is relatively low in North American countries. The statistics are similar for inflation. On average, prices in Latin American countries increase by 5.937% annually while prices in North America increased at 2.129%. Concerning GDP growth, Afro-Asian countries show the highest average annual growth in GDP at 4.364.

4.3 Pair wise Correlation Matrix

Table 4.3 Pair wise Correlation matrix

Table 4.3 shows the correlation coefficient between selected variable. The sample consists of 39490 firms across 45 countries during the period 1995 – 2013. *Stock return (SR)* is the log return on firms' share prices. *Earnings management (EM)* is the average discretionary accruals and represents accounting information quality. *Bureaucratic quality (BQ)* and *legislative strength (LS)* are indices with values ranging from 0 to 4 while *corruption* and *law quality (LQ)* are indices with values ranging from 0 to 6. *Transparency (T)* is the inverse of *corruption*. *Size* is the average of a firm's total assets in US dollars. *Leverage (LEV)* is a firm's ratio of debt to equity. *Interest rate (IR)*, *Inflation (INF)*, the annual consumer price index, *GDP growth*, the annual growth rate of Gross Domestic Product are measured in percentages. * indicates a significance level of 10% or more.

	SR	EM	BQ	T	LQ	LS	SIZE	LEV	IR	INF	GDP
SR	1.0000										
EM	-0.0052*	1.0000									
BQ	-0.0665*	-0.0012	1.0000								
T	-0.0257*	-0.0017	0.7230*	1.0000							
LQ	-0.0521*	-0.0010	0.7358*	0.6831	1.0000						
LS	-0.0287*	-0.0005	-0.1589*	-0.1593*	-0.2278*	1.0000					
SIZE	0.1227*	-0.0017	-0.2650*	-0.1334*	-0.2484*	-0.0294*	1.0000				
LEV	0.0002	0.0001	-0.0004	-0.0005	0.0001	-0.0001	0.0013	1.0000			
IR	0.0037*	-0.0018	-0.2093*	-0.0721*	-0.2632*	-0.2039*	-0.0000	0.0004	1.0000		
INF	0.0332*	0.0014	-0.3529*	-0.2267*	-0.3362*	-0.0677*	-0.0005	0.0003	0.0524*	1.0000	
GDP	0.1822*	0.0010	-0.4729*	-0.3182*	-0.2880*	0.1036*	0.0619*	0.0007	-0.0261*	0.1778*	1.0000

Table 4.3 presents the correlation coefficients on which an initial evaluation of the relationship among the main variables is made. The results suggest that there exists a negative relationship between stock return and earnings management. This shows that managers' manipulation of earnings to meet or beat a target or achieve some desired result is not rewarded in the form of higher returns to their stocks. It suggests that the market is able to see through manipulated earnings to reflect the quality of the accounting information being reported since earnings management results in poor quality accounting information.

In relation to institutional quality, the results show a negative relationship between bureaucratic quality and legislative strength and between transparency and legislative strength. On the other hand, there is a positive relationship bureaucratic quality and law quality and bureaucratic quality and transparency. The highest correlation is between bureaucratic quality and law quality. The positive coefficient of above 0.70 indicate that high quality administrative systems in a country are positively associated with the country's ability to enact laws that are relevant to the country's peculiar situation and its ability to enforce those laws and administer justice.

With regards to stock return, all institutional quality measures have negative relationship coefficients indicating a negative relationship. It suggests that strong institutions make it difficult for investors to earn abnormal returns. Higher institutional quality is indicative of low risk areas which may not fetch high returns on the stock market.

The results also indicate a negative relationship between the institutional quality variables and earnings management. This suggests that in jurisdictions characterised

by high transparency, efficient administrative structures, relevant laws and effective enforcement of laws, managers are less able to engage in earnings management practices. This results in higher accounting information quality in those jurisdictions.

Regarding firm size and leverage, the results in table 4.3 show a positive relationship with stock return. This suggests that larger firms tend to perform better on the stock market than smaller firms. The positive relationship between leverage and stock return indicate that firms that are more highly leveraged are rewarded on the stock market in the form of positive returns. Modigliani & Miller (1963) suggest that increasing levels of debt put shareholders' return at risk because of the preference given to debtholders in times financial distress. As such shareholders of highly leveraged firms tend to require higher returns. Furthermore, taking on more debt signals that managers have identified good projects and are confident of their ability to profit from such projects.

Concerning earnings management however, the table shows a negative relationship with firm size and a positive relationship with firm leverage. This indicates that larger firms indulge less in earnings management and therefore produce better quality accounting information. Larger firms often have more complex accounting control mechanisms and engage quality external auditors to ensure that the accounting information produced is of high quality. On the other hand, it appears that highly geared firms tend to indulge more in earnings management practices, therefore resulting in poorer quality accounting information. This is perhaps to disguise their leverage position in order to satisfy certain conditions such as debt covenants or convey a certain message to stakeholders and analysts.

The relationship between interest rate, inflation and growth in gross domestic product and stock returns are all positive with the highest correlation being with the growth in gross domestic product. This indicates that higher interest rates, higher level of inflation and increased economic development result in higher returns on the stock market. In relation to earnings management, the results show that apart from interest rate which has a negative relationship with earnings management, the other macroeconomic indicators, inflation and growth in gross domestic product are positively associated with earnings management. This shows that periods of higher interest rate are associated with poor accounting information whereas periods of higher inflation and increased gross domestic production are associated with better accounting information quality.

4.4 Regression Results

This section presents the empirical results in four parts. The first part measures and analyses accounting information quality. The results of the first part are then employed in the second part to examine the relationship between accounting information quality and institutional quality. The third part analyses the effect of accounting information quality and institutional quality on stock return. The final part tests the sensitivity of accounting information quality and institutional quality to stock return.

4.4.1 Measurement and Analysis of Accounting Information Quality

This sub-section measures and analyses accounting information quality. This is measured in three ways, i.e., persistence, conservatism and earnings management.

Persistence of firms' earnings and cash flows

The empirical results of measuring the persistence of earnings and cash flows as proxies of accounting information quality are analysed in this sub-section. Table 4.4 presents the regression output using variables relating to firms. The first column relates to the earnings while the second column relates to cash flow from operations. The regressions are estimated by employing dynamic panel-data estimation, Two-step System GMM. It also uses Windmeijer-correct standard error, small-sample adjustments, and orthogonal deviation.

The diagnostic tests reported are (1) the instrument count, (2) number of observations, (3) the Hansen test for over identifying restrictions, (4) the Arellano-Bond (AB2) test for first and second order autocorrelation in the residuals and (5) the F-test to show

Table 4.4: Persistence of firms' earnings and cash flows

Table 4.4 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variables are firm earnings (*Earnings*) and cash flow from operations (*Cash Flow*). *Earnings Lag* and *Cash Flow Lag* are the first lags of the dependent variables. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with a null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	Earnings	Cash Flow From Operations
	(1)	(2)
Earnings Lag	0.29200* (0.16500)	
Cash Flow Lag		0.00135 (0.00183)
Constant	-0.49900*** (0.19000)	-0.13800** (0.05750)
Observations	385,561	358,592
No. of instruments	171	51
AB2	1.130	0.129
Hansen's Test	178.2	61.31
F-test	3.131*	0.548

the joint significance of instruments. The Hansen test shows that instruments used in the estimation are valid and whether or not the model suffers from instrument

proliferation. The Arellano-Bond test ensures that there is no second order autocorrelation in the error term. For the model to be robust, the Hansen and Arellano-Bond should not be significant. The F-test shows the joint explanatory power of the regressors to the dependent variable. From Table 4.4, the results of earnings show that previous year's earnings positively and significantly affect current year's earnings. The coefficient of 0.292 indicates that a \$1 increase in earnings in the previous year results in a \$0.292 increase in current year earnings. This means earnings are persistent in that earnings are sustainable across periods. However, the coefficient of cash flow from operations was positive but statistically insignificant, leaving little evidence to draw any conclusion on the persistence of a firm's cash flow from operations. This suggests that in determining a better performance measure between earnings and cash flows, using earnings is more appropriate which is supported by the work of Dechow et al. (2014). Their study shows that earnings contain more information about the future performance of a firm than cash flows.

To analyse the difference in persistence between different regions, I analyse the persistence of earnings and cash flows of the firms in the various regions. The results are presented in table 4.5. Concerning earnings, the results indicate that while the coefficient of the lag of earnings is negative and significant at 1% for Australian firms, it is positive and significant at 10% for Latin American firms and 1% for all other regions. This shows that the earnings of Australian firms are infrequent as a \$1 increase in previous year's earnings results in a \$0.357 decrease in current earnings. Furthermore, the earnings of European firms show the strongest persistence having a coefficient of 1.033. This indicates that for every \$1 of previous earnings, current earnings increase by \$1.033.

Table 4.5: Regional earnings and cash flow persistence

Table 4.5 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variables are firm earnings (*Earnings*) and cash flow (*Cash Flow*). *Earnings Lag* and *Cash flow Lag* are the first lag of the dependent variable included as a regressor. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	Dependent Variable: Earnings				
	Latin America	Australia	Europe	Afro-Asia	North America
Earnings Lag	0.02700* (0.01500)	-0.35700*** (0.12800)	1.03300*** (0.06670)	0.60100*** (0.04960)	0.04610*** (0.01540)
Constant	0.05230*** (0.01760)	-0.48900*** (0.11900)	-0.00035 (0.00452)	-0.05020 (0.03620)	-1.31300*** (0.20000)
Observations	10,180	18,002	77,247	166,825	82,744
No. of instruments.	6	6	5	5	5
AB2	-0.408	-1.002	1.642	1.402	0.995
Hansen's Test	2.988	7.732	6.517*	1.277	5.806
F-test	3.227*	7.815***	240.1***	146.8***	8.950***
Variables	Dependent Variable: Cash Flow				
	Latin America	Australia	Europe	Afro-Asia	North America
Cash Flow Lag	-0.09530 (0.18300)	1.78200*** (0.08070)	1.45500*** (0.17900)	1.17500** (0.49500)	0.94700*** (0.11600)
Constant	0.07390 (0.07790)	0.22100** (0.08900)	0.00260 (0.00573)	-0.00959 (0.02480)	-0.11500 (0.08170)
Observations	8,584	17,992	74,956	174,596	82,464
No. of instruments	5	5	5	5	4
AB2	-0.453	1.022	1.555	0.902	0.969
Hansen's Test	4.912	2.491	2.411**	4.030	1.569
F-test	0.270	487.3***	65.95***	5.631**	67***

The results of the persistence of cash flows show that the cash flows of Latin American firms are not persistent as it has a negative coefficient of 0.0953. The coefficient of the lag of cash flow for Australian, European, Afro-Asian and North American firms are positive and significant at 1% for all except Afro-Asia which is 5%. This provides indication of sustainability of cash flows for the foreseeable future. Furthermore, a comparison of the coefficients of earnings and that of cash flows show that for all regions, cash flows are more persistent than earnings. This corroborates expectations that the presence of accruals and other components of earnings are less persistent than cash flows and therefore reduce the persistence of earnings (Dechow & Dichev, 2002; Leal et al., 2017). This also implies that relative to earnings, cash flows

provide more information about a firm's future performance.

Conservatism

This sub-section analyses the empirical results with the aim of assessing the extent to which firms adopt conservative accounting practices. Table 4.6 and 4.7 present the results of the regressions that use firm-specific variables for the entire sample and for the different regions.

Table 4.6: Conservatism

Table 4.6 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is the measure of a firm change in net income (**Change Net Income**). $D\Delta NI_{it-1}$ is a dummy variable included to indicate negative net income which takes the value 1 if so and 0 otherwise, ΔNI_{it-1} is **change in net income lag** and $D\Delta NI_{it-1} \times \Delta NI_{it-1}$ is the interaction of the dummy variable and change in net income lag. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments, (6) Wald test to show the significance of $\alpha_2 + \alpha_3$.

Variables	Change in Net Income (1)
$D\Delta NI_{it-1} (\alpha_1)$	0.38800 (0.38900)
$\Delta NI_{it-1} (\alpha_2)$	3.02E-6*** (5.92E-7)
$D\Delta NI_{it-1} \times \Delta NI_{it-1} (\alpha_3)$	-3.66E-6*** (3.40E-7)
Constant	0.10500 (0.35400)
$\alpha_2 + \alpha_3$	-6.4E-7
Observations	385,435
No. of instruments	37
AB2	1.279
Hansen's Test	34.11
F-test	40.87***
Wald test	1.5

Basu (1997) explains conservatism as an accountant's propensity to demand a greater level of certainty before recognising good news than that required to recognise bad news. This implies that conservatism primarily results in a downward movement in earnings. It also treats losses as large but transitory and gains as small but persistent

over time. Basu (1997) therefore hypothesise that negative earnings changes have a greater tendency to reverse in future periods in comparison to positive earnings changes.

The results from table 4.6 indicate that previous year's change in net income positively and significantly affect current year's change in net income at 1% significance level. The coefficient of the lag of net income is statistically different from zero as seen by the p-value of less than 1%. The dummy variable, which takes a value of 1 to indicate a negative change in net income has a positive coefficient of 0.388. This indicates that when there is a negative change in net income in the previous year, the change in current earnings will be positive giving initial evidence of bad news being transitory. This indicates that firms do not delay the recognition of losses. However, the coefficient of the dummy term is not statistically significant. Furthermore, the coefficient of the interaction term of dummy change in net income and change in net income is negative and statistically significant at 1% level. This indicates that the firms do in fact acknowledge bad news on a more timely basis than good news. Basu (1997) suggests that this would result in transitory negative earnings which will revert in future periods.

To further confirm whether these firms actually practice conservative accounting the sum of the coefficient of the lag of change in net income and the interaction term is computed. Studies show that this sum should be less than zero to verify a firm's conservatism status (Basu, 1997; Paulo, Martins & Girao, 2014). From the results, there is evidence to show that the firms practice conservatism since the sum of the coefficient of the lag of net income and the interaction term ($\alpha_2 + \alpha_3$) is less than

zero. This also indicates that although for these firms good news is not recognised on a timely basis, bad news is more speedily recognized than good news and negative changes in earnings are less persistent than positive changes and are more likely to revert in future periods (Basu 1997; Dechow et. al, 2010). However, the Wald test performed on the $\alpha_2 + \alpha_3$ shows that their joint effect on change in net income is not statistically significant.

Table 4.7: Regional Conservatism

Table 4.7 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is the measure of a firm change in net income (*Change Net Income*). $D\Delta NI_{it-1}$ is a dummy variable is included to indicate negative net income which takes the value 1 if so and 0 otherwise, ΔNI_{it-1} is *change in net income lag* and $D\Delta NI_{it-1} \times \Delta NI_{it-1}$ is the interaction of the dummy variable and change in net income lag. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments, (6) Wald test to show the significance of $\alpha_2 + \alpha_3$.

Variables	Dependent Variable: Change in Net Income				
	Latin America	Australia	Europe	Afro-Asia	North America
$D\Delta NI_{it-1} (\alpha_1)$	-13.69000 (14.38000)	19.08000 (12.75000)	7.65500*** (1.61900)	-7.42800 (4.89400)	47.93000* (24.9200)
$\Delta NI_{it-1} (\alpha_2)$	0.09490*** (6.31E-4)	0.12600 (0.18200)	2.17E-6 (5.01E-6)	0.02030 (0.01980)	-0.002520 (0.00284)
$D\Delta NI_{it-1} \times \Delta NI_{it-1} (\alpha_3)$	-0.20100** (0.07950)	-1.57000*** (0.46500)	1.50E-5*** (3.02E-6)	-0.04790 (0.07570)	0.00359 (0.00424)
Constant	6.17800 (6.31700)	-12.16000* (6.61800)	-3.35200*** (0.69900)	3.11900 (1.92600)	-18.17000 (12.77000)
$\alpha_2 + \alpha_3$	-0.10610	-1.44400	1.717E-5	-0.02760	0.00107
Observations	10,292	17,831	51,590	168,949	82,464
No. of instruments	68	67	69	68	67
AB2	1.008	0.625	0.736	1.003	-0.144
Hansen's Test	76.84	51.05	45.22	52.59	67.80
F-test	412418***	8.127***	14.02***	1.006	1.245
Wald test	1.79	5.88**	14.53***	0.19	0.53

The results of the regional analysis as presented in table 4.7 show that Latin American, Australian and North American firms practice conservative accounting and hence expected losses recognized on a timely basis to revert to gains in future periods since $\alpha_2 + \alpha_3$ is less than zero. However, the results of the Wald test show that the

joint effect of $\alpha_2 + \alpha_3$ is significant only for firms in Australia. These confirm results of earlier studies such as Paulo et al. (2014). Their study provides evidence of conservative accounting in Latin American and North American firms. Specifically, the study provides evidence that Brazil, Mexico and USA practice conservatism.

4.4.2 The Effect of Institutional Quality on Accounting Information Quality

This section presents the results of the determination of the relationship between institutional quality and accounting information quality¹. Table 4.8 presents the regression results where the dependent variable is accounting information quality and the results are presented in columns. Column 1 presents the effect of bureaucratic quality, column 2 presents the effect of transparency and columns 3 and 4 show the effects of legislative strength and law quality respectively.

The results show that across all specifications, the various measures of institutional quality are positively related to accounting information quality as measured by earnings management. However the results are significant only for bureaucratic quality and transparency. This shows that the strength and administration of policies and the level of expertise of policy formulators and executors impacts positively on accounting information quality. Furthermore, the results are positive and significant for transparency. The institutional quality measures represent the political risk of a country and give an indication of its creditworthiness.

The results presented in table 4.8 show that the previous values of accounting information quality are negatively associated with current values of accounting

¹ To examine the relationship among stock return, institutional quality and accounting information quality, earnings management is used as the proxy for accounting information quality. Higher engagement in earnings management implies lower accounting information quality.

information. This implies that firms are not likely to engage in earnings management behaviour consistently thereby improving accounting information quality.

Table 4.8 The Effect of Institutional Quality on Accounting Information Quality

Table 4.8 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Accounting information quality (AIQ)*. *Bureaucratic quality (BQ)* and *legislative strength (LS)* values range from 0 to 4 while *corruption* and *law quality (LQ)* values range from 0 to 6. *Transparency (TR)* is the inverse of *corruption*. The firm specific controls are *AIQ lag*; *size*, measured as the natural logarithm of total assets; *leverage*, measured as debt to equity; and *IFRS*, a dummy taking the value of 1 if the firm has adopted IFRS and 0 otherwise. *GDP growth*, the annual economic growth rate and *Inflation*, the annual change in price account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
AIQ Lag	-0.35600*** (0.11300)	0.19900 (0.12100)	-0.34200*** (0.12100)	-0.25800 (0.18600)
BQ	0.10300** (0.04890)			
TR		0.06870** (0.03070)		
LS			0.00553 (0.00973)	
LQ				0.02760 (0.02490)
Size	-0.03130 (0.02850)	-0.04430 (0.0624)	-0.03870 (0.03850)	-0.12600** (0.04940)
Leverage	0.00826 (0.01570)	0.02380 (0.06370)	-0.00148 (0.04160)	0.00007 (0.00007)
IFRS	-0.01740 (0.10700)	0.08000 (0.06760)	0.17900 (0.12000)	0.62800*** (0.19800)
Inflation	0.00058 (0.00583)	0.00130 (0.00829)	0.00934 (0.00745)	-0.01030 (0.00785)
GDP Growth	0.00162 (0.00419)	0.02350* (0.01300)	0.00355 (0.00545)	-0.01090** (0.00449)
Constant	-0.27700 (0.27000)	0.06500 (0.7920)	0.08780 (0.46200)	1.17400* (0.60700)
Observations	271,605	271,605	271,605	271,605
No. of instruments	86	75	87	59
AB2	-1.212	1.400	-1.170	-0.825
Hansen's Test	71.51	60.39	86.16	46.03
F-test	2.422**	1.597	2.915***	2.452**

Bureaucratic quality has a positive relationship with accounting information quality and this is significant at 5%. This shows that entrenched policies that are not easily reversed or changed encourage earnings management and therefore result in lower

accounting information quality. This may result when policies already in place do not curb earnings management behaviour. In such situations managers are not encouraged to desist from such activities since it is unlikely that policies that facilitate such behaviour will be reversed or changed. Transparency has a similar relationship with accounting information quality. The absence of corruption and the availability of information do not curb earnings management behaviour. Law quality and legislative strength are also positively related to accounting information quality. Earnings management is not illegal and as such, while it is frowned upon by the Securities and Exchange Commission as being misleading, there are no laws prohibiting managers from exercising discretion in the preparation of financial information. In view of this the institutional environment in which a firm operates may not be able to deal with it effectively.

The coefficient of size is negative across all specifications and significant at 5% in the presence of law quality. This means that larger firms tend to engage less in earnings management and vice versa. In other words, larger firms produce high quality accounting information whereas the opposite is true for smaller firms. Jiang and Kim (2004) find that larger firms face more scrutiny and are therefore less able or less inclined to engage in manipulative behaviour with regards to financial reporting. Kim et al. (2016) also find that small firms are more likely to engage in earnings management and therefore produce accounting information which is of less quality than that of larger counterparts.

The introduction of IFRS was aimed at enhancing the quality of financial information. As such, it is expected that firms that have adopted IFRS engage less in earnings management and therefore produce high quality accounting information. However,

the results indicate that IFRS and accounting information quality are positively related at a 1% significance level and that firms that adopt IFRS do engage in earnings management. These results are corroborated by Ebaid (2016) who finds no significant increase in accounting information quality with the introduction of IFRS. It contradicts Barth et al. (2008) and Nkundabanyanga et al. (2013) whose study suggest an improvement in accounting information quality with the adoption of IFRS.

The results also show that inflation has a positive impact on earnings management in the presence of bureaucratic quality, transparency and legislative strength. Periods of inflation are normally accompanied by higher interest rates. This causes investors to liquidate shares and rather invest in other instruments. Managers therefore feel compelled to present earnings that indicate string performance to maintain shareholder confidence. This is done through earnings management. With regards to GDP growth, the results show that growth in GDP negatively affects accounting information quality. In that, economic development serves as a disincentive for managers to manipulate accounting figures and therefore improves accounting information quality.

4.4.3 The Effect of Accounting Information Quality and Institutional Quality on Stock Return

This section presents the results from investigating the effect of accounting information quality and institutional quality on stock return. Table 4.9 displays the panel regression and the results of the model for the entire data set and the results are presented in columns. Column 1 presents the results for accounting information quality while columns 2 – 5 present the results for bureaucratic quality, transparency, legislative strength and law quality respectively.

Table 4.9 Stock Return Effect of Accounting Information and Institutional Quality

Table 4.9 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)	(5)
SR Lag	-0.07690*** (0.02730)	-0.08500*** (0.02390)	0.30400 (0.25500)	0.72900** (0.31300)	0.52900 (0.37500)
AIQ	-0.01020 (0.02930)				
BQ		-0.12400 (0.10200)			
TR			0.20800*** (0.02420)		
LS				0.37700* (0.20000)	
LQ					-0.26000*** (0.07980)
Size	0.26700** (0.13200)	-0.14700* (0.08110)	-0.09870*** (0.03600)	0.00340 (0.17900)	-0.04610 (0.06680)
Leverage	0.12400* (0.07410)	0.10200* (0.05440)	0.01540 (0.01380)	0.08270** (0.04210)	0.03570 (0.03620)
Interest Rate	-0.00892 (0.00700)	-0.10300*** (0.02840)	0.00363 (0.00319)	-0.00130 (0.01030)	-0.03260* (0.01950)
Inflation	-0.01590 (0.02020)	-0.04910*** (0.01480)	0.01950** (0.00769)	-0.10000 (0.07240)	-0.09520 (0.07020)
GDP Growth	0.02450** (0.01220)	0.01760 (0.01760)	0.01610 (0.01070)	-0.11500* (0.06930)	0.13800*** (0.03750)
Constant	-3.32700** (1.59900)	2.46500* (1.44200)	0.26900 (0.42900)	-0.92100 (2.55700)	1.70100** (0.80600)
Observations	190,885	201,244	201,244	190,885	201,244
No. of instruments	10	9	12	11	10
AB2	-0.375	-1.185	0.620	-0.484	1.156
Hansen's Test	0.0640	0.0898	5.524	4.073	0.425
F-test	7.799	124	24.21***	25.39***	7.904

The results suggest that of the institutional quality variables, transparency and law quality have a positive effect on stock return. This means that in countries with strong institutions, capital market participants may be rewarded in the form of higher returns. However, since these variables are proxies for a country's risk, according to the risk-return theory, low risk areas will yield low returns. Since strong institutions represent less risk, it is expected that returns on stocks will be low. This contradicts the risk-

return theory and Core et al. (2015) who find evidence that high risk corresponds with high reward on stock markets.

On the other hand, the results also show that higher levels of legislative strength are associated with lower stock returns. This also contradicts the result in Core et al. (2015) who find that legal quality has a positive effect on implied cost of capital. Intuitively, majority of businesses, especially foreign firms, prefer to conduct business in countries with high legal quality. This places a demand on long term capital and leads to a premium on cost of capital.

The results also provide evidence of the leverage effect as proposed by Bhandari (1988). Historically, highly geared firms have outperformed firms with low gearing. The results show that leverage is positively and significantly related to stock returns. This shows that as firms increase their gearing level, they generate higher returns. This is consistent with theory (Modigliani & Miller, 1963) that as firms increase their debt, their value increases through tax savings which reduces their overall cost of capital to shareholders.

With regards to interest rate, the results show that as interest rates increase, stock returns tend to decrease. This adds to the literature on the direction of the relationship between interest rates and stock returns which has been inconclusive thus far (Ho & Iyke, 2017). An increase in deposit rates leads investors to liquidate their shares and invest in debt instrument. Higher interest rates tend to depress the price of stocks thereby reducing returns. Inflation also has a negative effect on stock returns. Higher inflation rates lead to a reduction in the real return on money and other assets such as stocks.

Robustness Tests

Further analyses are conducted on regional basis of the stock return effects of accounting information and institutional quality. The results are presented for Latin America, Australia, Europe, Afro-Asia and North America in tables 4.10, 4.11, 4.12, 4.13 and 4.14 respectively.

Stock return effects of accounting information and institutional quality are presented in table 4.10. From the table, the lag of stock return has a positive relationship with stock return. This shows that past performance has an impact on current performance of stocks. Investors in Latin America can therefore use the performance of their stocks in the previous year as an indicator of what to expect in the current year. The results also show that accounting information quality impact negatively on stock return. This is in line with the results of the pooled sample. As managers engage in manipulative reporting behaviour, stock return decreases.

In Latin American countries, bureaucratic quality negatively affects stock return. These countries are characterised by relatively weak administrative structures and frequent policy reversals. This tends to drive down stock returns as such environments command a negative risk premium on equity instruments. These results are similar to the results of the pooled sample. Transparency also has a negative relationship with stock return. This provides further evidence of low risk environments yielding lower returns. These results contradict the results for the pooled sample.

The results also provide evidence of the effect of legal environment on stock return. Similar to the results of the pooled sample, legislative strength is positively associated with stock return. However, unlike the pooled sample, law quality in Latin American

countries positively affects stock return. This indicates that stronger legal systems as seen by relevant laws and observance and enforcement of rule of law result in higher return to shareholders.

Table 4.10 Stock Return Effect of Accounting Information and Institutional Quality in Latin America

Table 4.10 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)	(5)
SR Lag	-0.63900 (0.47000)	0.61300** (0.27600)	0.63200*** (0.23900)	0.62200*** (0.21500)	-0.17000 (0.25700)
AIQ	-0.64700 (0.82500)				
BQ		-0.44600** (0.22200)			
TR			-0.56100*** (0.18700)		
LS				0.21200** (0.09070)	
LQ					0.12500 (0.09120)
Size	-0.35800** (0.15400)	-0.10200** (0.04780)	-0.09300 (0.11000)	-0.06070 (0.05430)	0.21300** (0.08680)
Leverage	-0.18400 (0.20900)	-0.24000 (0.15300)	0.26300 (0.18100)	0.30600 (0.27500)	-0.02130 (0.01450)
Interest Rate	-0.00870* (0.00487)	0.00481 (0.00439)	-0.0110** (0.00546)	-0.01040*** (0.00330)	-0.00099 (0.00346)
Inflation	-0.02260 (0.03090)	-0.03030* (0.01690)	-0.01250 (0.01210)	0.092700*** (0.03420)	0.15400*** (0.04700)
GDP Growth	0.21100*** (0.06120)	0.01650 (0.01650)	0.11300** (0.04370)	0.10200** (0.04540)	0.10300*** (0.03200)
Constant	4.21900* (2.28900)	2.55900** (1.20500)	2.45300 (1.62900)	-0.42900 (0.60500)	-4.07500*** (1.54400)
Observations	3,450	3,450	3,659	3,659	3,450
No. of instruments	11	14	12	10	10
AB2	0.559	1.338	1.052	1.164	-0.683
Hansen's Test	0.704	6.692	5.181	2.298	2.044
F-test	3.644***	4.669***	2.74***	6.323***	3.279***

Size has a negative effect on stock return when controlling for accounting information quality, transparency and legislative strength. In line with the results for the pooled sample, interest rate predominantly has an inverse relationship with stock return while

GDP growth improves stock return. This shows that as Latin American economies grow and develop, investors earn higher returns.

Table 4.11 Stock Return Effect of Accounting Information and Institutional Quality in Australia

Table 4.11 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)	(5)
SR Lag	0.30600 (0.45200)	0.83200 (0.52300)	1.11200* (0.62500)	-0.06760 (0.52400)	1.97200** (0.96500)
AIQ	-0.16900 (0.11000)				
BQ		0.37700 (0.29000)			
TR			-1.07100** (0.52300)		
LS				0.55200*** (0.17400)	
LQ					1.23600** (0.48600)
Size	0.28300* (0.16400)	-0.16600* (0.08960)	-0.24200*** (0.07850)	0.06300 (0.09570)	0.08270 (0.13100)
Leverage	0.41700** (0.18000)	-0.23900 (0.22900)	0.06620 (0.26100)	0.08000 (0.22200)	-0.57700** (0.24500)
Interest Rate	-0.14900 (0.15500)	0.13700** (0.06590)	0.17900** (0.08570)	0.19100*** (0.07070)	0.19400*** (0.06550)
Inflation	0.18400*** (0.06570)	-0.11400 (0.08990)	0.01570 (0.10700)	0.13100** (0.06540)	0.037000 (0.10900)
GDP Growth	0.16500** (0.07580)	0.04480 (0.05750)	-0.09460 (0.12500)	0.41400*** (0.12500)	-0.05930 (0.11900)
Constant	-3.70000** (1.70900)	0 (0)	7.36800** (3.24200)	-4.52900** (2.09300)	-8.40900** (3.57700)
Observations	3,892	4,182	4,182	4,182	4,182
No. of instruments	12	12	11	10	12
AB2	-0.814	0.163	0.581	-0.176	-0.978
Hansen's Test	2.003	6.280	1.257	0.356	2.839
F-test	2.354**	3.351***	4.791***	6.426***	2.625**

Table 4.11 presents the results showing the effect of accounting information and institutional quality on stock return in Australian firms. The coefficient for accounting

information quality is negative. This indicates an inverse relationship between accounting information quality in the form of earnings management and stock return. In that, the more managers manage earnings, the less return accrue to investors. These results are similar to results for the pooled sample (table 4.9) and Latin America (table 4.10).

Furthermore, bureaucratic quality has a positive impact on stock return. This contradicts results for the pooled sample as well as for Latin America. This provides evidence that strong bureaucracy, stable policies and well-qualified bureaucrats shape a firm's environment in such a way as to attract investors. The inflow of investments for wealth-creating ventures results in higher returns to shareholders.

The results for legislative strength and law quality are also positive while that of transparency is negative. This contradicts the results for the pooled sample but not for Latin America. It suggests that in Australian countries, with the exception of transparency, strong institutional mechanisms contribute to high return on traded stocks. The results also suggest that interest rate, inflation and GDP growth contribute to higher returns on firms' stocks.

Table 4.12 Stock Return Effect of Accounting Information and Institutional Quality in Europe

Table 4.12 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)	(5)
SR Lag	-0.22600 (0.46300)	0.69700*** (0.16500)	0.54000** (0.26400)	0.77500*** (0.25800)	0.63600** (0.26600)
AIQ	0.35900* (0.19300)				
BQ		-0.13100 (0.14900)			
TR			-0.29000*** (0.10800)		
LS				-0.16000*** (0.045100)	
LQ					-0.26600 (0.38900)
Size	-0.48000* (0.27400)	-0.12900 (0.10300)	-0.4040*** (0.13800)	0.32900** (0.15200)	0.29900* (0.18000)
Leverage	0.11300 (0.07070)	0.08320*** (0.0309)	0.06840 (0.04880)	-0.04650 (0.05930)	0.04620 (0.04340)
Interest Rate	0.06070 (0.03900)	-0.04770** (0.02060)	-0.05210*** (0.00879)	-0.13800*** (0.03190)	0.00045 (0.06560)
Inflation	-0.17800 (0.21100)	-0.00428 (0.04700)	-0.03090 (0.02430)	-0.03270 (0.03430)	0.15800 (0.10400)
GDP Growth	-0.19800 (0.14900)	0.058700 (0.0383)	-0.02270 (0.04570)	0.24900*** (0.04530)	0.27300** (0.11600)
Constant	6.21100* (3.56400)	1.93200 (1.76100)	6.1290*** (2.1720)	-3.596* (1.864)	-3.00700 (3.42000)
Observations	24,369	24,369	24,369	24,369	24,369
No. of instruments	10	11	12	9	11
AB2	-1.504	1.293	0.930	-0.0746	-1.136
Hansen's Test	2.568	5.554	4.780	0.496	2.410
F-test	4.375***	8.008***	14.18***	11.57***	2.405**

Table 4.12 presents the results of stock return effects of accounting information and institutional quality in Europe. The results show that previous year's stock return provide an indication of what investors can expect in the current year. This is similar to results for Latin America and Australia. Additionally, in line with the results for Latin American firms, accounting information quality is positively associated with stock return. While this contradicts results for the pooled sample, it is in line with

Dechow et al. (2014) who suggest that investors can be deceived by earnings management when it results in positive returns to them.

The results for bureaucratic quality in Europe are similar to that of the pooled sample and Latin America but contradict the results for Australia. Here, bureaucratic quality reduces stock return. Moreover, the effects of transparency on stock return in European firms are similar to that of Latin America and Australia. These variables positively influence stock return. Conversely, law quality and legislative strength impacts negatively on stock return. This corroborates suggestions by (Core et al., 2015) that regulation negatively affects realised returns.

In the presence of accounting information quality, bureaucratic quality and transparency, size negatively affects stock return. On the other hand, when controlling for legislative strength and law quality, size has the opposite effect on stock return. Increased levels of debt are also positively associated with stock return as seen by the results of leverage. In addition, growth in GDP also has also has a positive effect on stock return.

Table 4.13 Stock Return Effect of Accounting Information and Institutional Quality in Afro-Asia

Table 4.13 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)	(5)
SR Lag	1.03100** (0.45000)	0.61000** (0.29500)	0.86700*** 0.86700***	1.26800 (0.93300)	0.55100 (0.95100)
AIQ	-0.03870 (0.05710)				
BQ		0.45500* (0.25300)			
TR			0.10200*** (0.01760)		
LS				0.14300 (0.09410)	
LQ					0.40700* (0.23900)
Size	0.33500* (0.19500)	0.11700 (0.19200)	0.33300*** (0.07390)	1.21900* (0.65300)	0.31300 (0.23500)
Leverage	-0.32900*** (0.12400)	0.04500 (0.12700)	0.14700** (0.06230)	0.44400 (0.33200)	-0.02040 (0.04010)
Interest Rate	0.06330** (0.02900)	0.26300** (0.12600)	-0.02550* (0.01370)	-0.11400 (0.08130)	-0.02350 (0.12400)
Inflation	-0.01170 (0.02260)	0.02200 (0.04170)	-0.06010*** (0.01140)	-0.11000 (0.08270)	0.06010 (0.07350)
GDP Growth	0.05650** (0.02460)	0.09780*** (0.03350)	0.14900*** (0.0200)	0.23700* (0.13500)	0.10800*** (0.03220)
Constant	-4.31300* (2.46100)	-4.16800* (2.19400)	-4.80200*** (0.92600)	-15.82000* (8.27700)	-6.12500 (4.54600)
Observations	104,563	108,237	108,237	108,237	108,237
No. of instruments	12	9	11	11	9
AB2	1.465	1.476	0.222	-0.768	0.723
Hansen's Test	4.384	1.408	2.914	0.0111	0.704
F-test	3.847***	9.805***	20.06***	0.973	37.12***

In table 4.13, the results of investigating the effect of accounting information and institutional quality on stock return in Afro-Asian firms are presented. Across all specifications, the lag of stock returns is positively associated with stock return. This is similar to results of the pooled sample as well as for Australia and Europe indicating that previous year's stock returns contain information about current stock returns. Furthermore, all the institutional quality variables have a positive relationship

with stock return. The results provide evidence that in Afro-Asia, higher levels of institutional quality provide investors with higher returns on their investments. This is comparable to the results for Australia with the exception of transparency.

Additionally, the effect of size on stock return is positive for all specifications. This suggests that for investors in Afro-Asia, larger firms are more rewarding than smaller firms. Similar results are generated for the effect of GDP growth. This shows that as the economies of Afro-Asian firms grow, firms operating in them enjoy increased value. These results are similar for firms operating in Australia and Europe.

Table 4.14 Stock Return Effect of Accounting Information and Institutional Quality in North America

Table 4.14 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag; size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)	(5)
SR Lag	-0.44500** (0.19500)	0.02240 (0.07470)	-0.54200 (0.35300)	0.67000 (0.46200)	0.19800 (0.38200)
AIQ	0.04730** (0.02160)				
BQ		-0.2960*** (0.02870)			
TR			-0.23400* (0.12300)		
LS				0.21900*** (0.06620)	
LQ					0.16300 (0.12900)
Size	0.23100*** (0.06700)	0.06270*** (0.01140)	-0.18700* (0.09850)	0.01120 (0.01520)	0.16700*** (0.05140)
Leverage	-0.02810 (0.01770)	-0.01850** (0.00731)	-0.01520 (0.01050)	0.00752 (0.00878)	0.013700 (0.00897)
Interest Rate	0.03970 (0.03720)	-0.01380* (0.00821)	-0.0168*** (0.00579)	0.03900* (0.02070)	-0.10300*** (0.01550)
Inflation	0.07760 (0.08750)	0.12200*** (0.02060)	0.07890 (0.07220)	-0.16400* (0.09670)	0.26700*** (0.05200)
GDP Growth	0.06810*** (0.02300)	0.07560*** (0.00583)	0.11500*** (0.01070)	0.08510*** (0.00639)	0.072500 (0.04620)
Constant	-3.15500*** (0.66200)	0 (0)	2.59400 (1.63100)	-0.59800*** (0.13200)	-3.29100*** (1.10300)
Observations	54,611	54,611	59,312	59,312	54,611
Number of id	6,568	6,568	6,856	6,856	6,568
No. of instruments	11	13	11	11	12
AB2	0.975	0.313	-1.531	1.184	-0.0325
Hansen's Test	0.796	6.695	5.254	1.400	5.054
F-test	11.03***	176.4***	81.48***	107.5***	34.14***

Table 4.14 presents the results from investigating the effect of accounting information and institutional quality on stock return in North America. The results show that accounting information quality is a driver of stock return. This contradicts the results for the pooled sample, Latin America, Australia and Afro-Asia where accounting information quality impacts negatively on stock return. However, it is similar to the

results for Europe.

In North American countries, bureaucratic quality and transparency have an inverse relationship with stock return. This is in line with results for Latin America and Europe while the aspect of transparency contradicts the pooled sample results. However, legislative strength and law quality have a positive influence on stock returns. Size and inflation improve stock return except when controlling for transparency and legislative strength respectively while GDP growth is positive for all specifications.

In summary, the results show that in European and North American firms, accounting information quality has a positive and significant relationship with stock return. This corroborates earlier studies which propose that capital market participants can be deceived by managers into thinking firms are doing well (Sloan, 1996; Xie, 2001). Furthermore, Chan et al. (2016) find that earnings management is a prominent predictor of stock returns. However, they suggest that earnings management is negatively associated with stock returns.

In respect of institutional quality, the results show that for Latin and North American firms, bureaucratic quality has a negative effect on stock return. Conversely, in Afro-Asian firms, strong bureaucracy and lower likelihood of policy reversal improves stock return. This is in line with Lam and Zhang (2015) and Kang and Ratti (2015) who suggest that policy instability leads to lower stock return. With regards to transparency, the results indicate that with the exception of firms operating in Afro-Asia, the absence of corruption and political influence and freely available information do not fetch high returns for investors. This confirms the idea of high

risk, high reward, which is evident in the research of Pellegrini et al. (2015).

With the exception of Europe, legislative strength in all other regions has a positive relationship with stock return. Core et al. (2015) suggest that legal quality improves implied cost of equity. In such countries, the laws enacted prove to be effective in ensuring the capital markets are rewarding to participants. Per law quality, the results show that in Australia and Afro-Asia, the extent to which laws are obeyed and enforced is directly related to stock returns. This means that in these countries where laws are well-obeyed and law enforcement agencies operate in an unbiased manner, investors reap high returns on the investments. This contradicts findings by Core et al. (2015). They propose that disclosure regulation is negatively related to realised returns.

Furthermore, contrary to the results of the pooled sample, the regional analysis shows that across all regions, inflation is positively related to stock return. This contradicts the results of Lehkonen and Heimonen (2015). Their results suggest that inflation negatively affects stock returns especially for emerging economies. The results also show that GDP growth has a positive impact on stock return. In countries with high GDP growth, there is an increase in surplus wealth which can be channelled into investment in the stock markets thereby driving prices up thus, increasing returns.

4.4.4 Is Stock Return Sensitive to Accounting Information and Institutional Quality?

This section presents the results from investigating the sensitivity of stock return to accounting information quality and institutional quality. This is to prevent the possibility of overlooking the role of a country's institutional environment on the

relationship between accounting information quality and stock return. As has been suggested in literature, context may affect this relationship (Lambertides & Mazouz, 2013; Song, 2015). Table 4.15 displays the panel regression and the results of the model for the entire data set. These results are presented in columns. Furthermore, tables 4.16, 4.17, 4.18, 4.19 and 4.20 presents the results for Latin America, Australia, Europe, Afro-Asia and North America respectively which also serves as robustness tests.

The results presented in table 4.15 show that on interacting accounting information and bureaucratic quality, stock return increases. This shows that when managers engage in earnings management, as long as it is beneficial to shareholders, policies are unlikely to be reversed or changed to discourage earnings management. Additionally, the combined effect of accounting information quality and transparency on stock return is positive. A revelation of the private gains accruing to investors through earnings management does not yield adverse consequences for shareholders.

The interaction of accounting information quality and legislative strength has a negative effect on stock return. This implies that in the presence of quality legal structures, earnings management results in higher returns. In such environments, investors' confidence in the legal system overrides any misgivings about earnings management. Moreover, managers are aware that any actions that put investors' interest at undue risk will be met with appropriate sanctions. This makes them manage firms more responsibly. Conversely, the sensitivity effect of accounting information quality and law quality on stock return is negative. This effect is not statistically significant.

Table 4.15 The Sensitivity of Stock Return to Accounting Information and Institutional Quality

Table 4.15 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
SR Lag	-0.03310* (0.01780)	-0.05460*** (0.01690)	0.12900 (0.27400)	0.19500 (0.28800)
AIQ	-0.16100* (0.09170)	-0.21300 (0.14100)	-0.28600 (0.18100)	0.11800 (1.84300)
BQ	-0.21600*** (0.04980)			
AIQ*BQ	0.05590** (0.02470)			
TR		0.05130*** (0.01190)		
AIQ*T		0.05760 (0.03560)		
LS			0.15700** (0.06720)	
AIQ*LS			0.10100* (0.06010)	
LQ				0.21000 (0.38400)
AIQ*LQ				-0.02400 (0.39000)
Size	0.08980** (0.03720)	0.06460 (0.03950)	0.08720** (0.03690)	0.24200 (0.24500)
Leverage	0.00351 (0.01000)	0.02130 (0.01760)	0.029000 (0.03520)	-0.07550 (0.05960)
Interest Rate	-0.00422 (0.00401)	-0.00605 (0.00439)	0.01380** (0.00580)	0.02660 (0.01990)
Inflation	-0.00186 (0.00502)	-0.01860*** (0.00587)	-0.04870*** (0.01480)	0.07490** (0.03380)
GDP Growth	0.05730*** (0.00422)	0.04740*** (0.00499)	0.01630 (0.01170)	0.09680*** (0.02940)
Constant	-0.49300 (0.48500)	-1.09700** (0.52100)	-1.50500*** (0.48200)	-4.45400 (4.76100)
Observations	190,885	190,885	190,885	190,885
No. of instruments	12	12	13	12
AB2	1.111	1.039	0.883	0.825
Hansen's Test	1.252	1.477	0.513	1.932
F-test	134.1***	69.55***	12.92***	3.789***

The results also show that size, leverage, interest rate and GDP growth improve stock return. The results show that where bureaucratic quality and legislative strength are high, accounting information quality positively influences stock return. This means

that in such environments, managers who engage in manipulative behaviour in financial reporting actually receive higher rewards on their firms stocks implying that stock return increases with decreases in accounting information quality. However the effect of transparency is negative.

Robustness Tests

Further analyses are conducted on regional basis of the sensitivity effects of accounting information and institutional quality to stock return. The results are presented for Latin America, Australia, Europe, Afro-Asia and North America in tables 4.16, 4.17, 4.18, 4.19 and 4.20 respectively.

Table 4.16 presents the results for the sensitivity of stock return to accounting information and institutional quality in Latin America. The results for the sensitivity of accounting information and bureaucratic quality are similar to that of the pool. This effect on stock return is positive, indicating that practicing earnings management given the bureaucratic quality of Latin American countries results in higher returns to shareholders. The results are also similar to the pooled sample for accounting information quality and transparency. This effect tends to decrease stock return in Latin American firms.

Contrary to the pooled results, the sensitivity of accounting quality and legislative strength to stock return is negative. In Latin American countries, investor confidence in the legal systems is not enough to ignore the effect of earnings management. Another contradiction to the results of the pooled sample is the sensitivity of accounting information and law quality to stock return. In Latin American firms, this effect is positive and significant at 10%.

Table 4.16 The Sensitivity of Stock Return to Accounting Information and Institutional Quality in Latin America

Table 4.16 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
SR Lag	-0.07330*** (0.02630)	0.26500 (0.17700)	-0.11000*** (0.02680)	0.37100 (0.33300)
AIQ	-0.34200 (1.46400)	-10.86000* (5.96500)	0.00231 (0.00162)	-2.51800* (1.49400)
BQ	0.43300 (0.67100)			
AIQ*BQ	0.17000 (0.73000)			
TR		1.22000* (0.66900)		
AIQ*T		3.64000* (1.99200)		
LS			0.06920 (0.04450)	
AIQ*LS			-0.22400** (0.09740)	
LQ				-0.05450 (0.18900)
AIQ*LQ				1.25300* (0.74500)
Size	0.24000** (0.11600)	-0.38700 (0.37400)	-0.02730 (0.02660)	-0.18500 (0.11300)
Leverage	-0.00421*** (0.00148)	-0.00050 (0.00914)	-0.00401*** (0.00128)	0.16700 (0.19700)
Interest Rate	0.01910** (0.00783)	0.00923 (0.00637)	-0.00980*** (0.00239)	-0.01190** (0.00510)
Inflation	0.05780 (0.03730)	-0.26200 (0.23200)	0.12200*** (0.02430)	-0.01190 (0.02100)
GDP Growth	0.09540*** (0.01160)	0.17900 (0.11800)	0.15300*** (0.02560)	0.16300*** (0.05070)
Constant	-5.04900 (3.30000)	1.93300 (4.67800)	-0.81300** (0.38700)	2.37000 (1.53100)
Observations	3,450	3,450	3,450	3,450
No. of instruments	13	12	14	14
AB2	-1.553	0.853	-0.294	1.038
Hansen's Test	5.644	0.287	7.735	6.465
F-test	27.01***	1.198	8.064***	3.504***

Table 4.17 presents the results of the sensitivity effect of accounting information and institutional quality to stock return of Australian firms. From the table, the individual effect of accounting information quality on stock return is omitted due to an interdependency between accounting information quality and other independent variables in the model. The interaction of accounting information and bureaucratic quality has a negative effect on stock return. However, this is not significant perhaps due to the omission the effect of accounting information quality. The results also provide evidence contrary to the pooled sample and Latin America that the sensitivity of accounting information quality and transparency to stock return is negative. However, contrary to the pooled results, the effect of accounting information quality and legislative strength on stock return is negative. This is in line with the results for Latin America.

The results also show that the sensitivity effect of accounting information and law quality to stock return is positive. This is similar to its effect in Latin American firms. This effect, however, is not statistically significant.

Table 4.17 The Sensitivity of Stock Return to Accounting Information and Institutional Quality in Australia

Table 4.17 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
SR Lag	1.62900* (0.87300)	-0.12700 (0.59200)	-0.25500 (0.29300)	1.95900 (1.20200)
AIQ	0 (0)	7.83400** (3.74000)	1.62800* (0.93700)	-12.5400 (10.47000)
BQ	0.64700** (0.26700)			
AIQ*BQ	-0.01860 (0.02250)			
TR		-1.55500 (1.11700)		
AIQ*TR		-2.25000* (1.19800)		
LS			-0.48400*** (0.13100)	
AIQ*LS			-0.45200* (0.27300)	
LQ				1.78000** (0.84800)
AIQ*LQ				2.27300 (1.88900)
Size	-0.23700*** (0.08080)	0.00192 (0.49700)	0.03990 (0.11100)	0.13900 (0.17300)
Leverage	-0.24100* (0.14300)	-0.00948 (0.01960)	-0.06340 (0.11200)	-0.35500 (0.23900)
Interest Rate	0.13700*** (0.04820)	-0.02790 (0.03550)	-0.24800*** (0.05750)	0.25300** (0.12800)
Inflation	-0.14600** (0.06630)	0.03830 (0.34000)	0.08850** (0.03850)	0.12700 (0.17200)
GDP Growth	-0.00448 (0.06370)	0.12100 (0.12300)	0.04700 (0.08690)	-0.17100 (0.17200)
Constant	0 (0)	5.89300 (8.94400)	1.39700 (1.39100)	-12.22000* (6.67900)
Observations	3,892	3,892	3,892	3,892
No. of instruments	13	12	14	14
AB2	0.505	-1.017	-1.072	-0.142
Hansen's Test	4.319	0.524	1.229	1.438
F-test	3.519***	1.436	6.063***	1.913**

In table 4.18 the results of the sensitivity analysis of stock return to accounting information and institutional quality are presented. The results show that the combined effect of accounting information and bureaucratic quality on stock return is negative. While this is similar to the results for Australian firms, it contradicts the results for the pooled sample and Latin America. The results for the sensitivity effect of accounting information quality and transparency to stock return also contradict the results for the pooled sample, Latin America and Australia. While this effect is negative in Europe, it is positive in the aforementioned regions. It shows that in Europe the joint effect of earnings management and the absence of corruption is detrimental to stock return.

In relation to legislative strength the results show that combining its effect with accounting information results in increased stock returns. While combining the effect of accounting information and law quality results in decreased stock return. The results are similar for the pooled sample but contradictory to the results for Latin America and Australia.

Table 4.18 The Sensitivity of Stock Return to Accounting Information and Institutional Quality in Europe

Table 4.18 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag; size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
SR Lag	0.40200** (0.19400)	0.42500*** (0.15600)	-4.38700 (2.92800)	0.16700 (0.22200)
AIQ	2.52500 (3.42200)	1.92300 (2.23000)	-2.02600 (1.67300)	4.67900** (2.22200)
BQ	-0.20900 (0.26600)			
AIQ*BQ	-0.66400 (0.85600)			
TR		0.46200 (0.30900)		
AIQ*T		-0.32100 (0.52600)		
LS			0.75400 (0.48400)	
AIQ*LS			2.01300* (1.19400)	
LQ				-0.24800** (0.12000)
AIQ*LQ				-0.83700** (0.39600)
Size	0.09550 (0.06430)	0.08720 (0.24200)	-0.43200 (0.28400)	-0.22100*** (0.07340)
leverage	-0.00530 (0.01180)	0.00751 (0.01330)	-0.07230 (0.08220)	0.02770 (0.02450)
Interest Rate	-0.03570** (0.01600)	-0.08250** (0.03390)	0.01900 (0.13000)	0.02380* (0.01230)
Inflation	-0.01630 (0.02050)	0.01460 (0.06740)	0.36400* (0.21100)	0.05700** (0.02400)
GDP Growth	0.08520*** (0.02250)	0.12500 (0.08750)	-0.09710 (0.13900)	-0.00818 (0.01580)
Constant	-0.41800 (1.35700)	-3.07300 (3.64100)	2.79100 (2.47800)	3.70200*** (0.92400)
Observations	24,369	24,369	24,369	24,369
No. of instruments	15	12	11	13
AB2	0.931	1.044	-1.068	-0.788
Hansen's Test	6.244	0.882	0.340	1.870
F-test	6.194***	8.635***	0.981	7.535***

Table 4.19 presents the results of investigating the sensitivity of stock return to accounting information and institutional quality in Afro-Asian firms. Similar to the pooled sample and the results for Latin America, the combination of accounting information and bureaucratic quality relates positively with stock return. These results, on the other hand, are contradictory to the effect of accounting information and bureaucratic quality in Australia and Europe which is negative. The results for the interaction of accounting information quality and transparency are similar to the results of the pooled sample and Latin America. This combined effect leads to higher returns to investors.

Interacting accounting information quality and legislative strength and accounting information and law quality provides results that are contradictory to the results of the pooled sample. The combined effect of accounting information quality and legislative strength leads to decreasing stock returns in Afro-Asian firms. The effect is the same for firms in Latin America, Australia and Europe but contradictory to the pooled sample.

Table 4.19 The Sensitivity of Stock Return to Accounting Information and Institutional Quality in Afro-Asia

Table 4.19 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag; size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
SR Lag	-0.51300*** (0.13700)	-0.30500 (0.29500)	-0.17600 (0.15300)	-0.21500** (0.08930)
AIQ	-0.67500 (0.42000)	-0.02000*** (0.00591)	0.01010* (0.00578)	-0.03190 (0.03200)
BQ	0.56600*** (0.10700)			
AIQ*BQ	0.26700 (0.17300)			
TR		-0.06380 (0.04470)		
AIQ*T		0.00554*** (0.00172)		
LS			0.03600 (0.06450)	
AIQ*LS			-0.00454* (0.00235)	
LQ				0.07090 (0.07500)
AIQ*LQ				0.00623 (0.00650)
Size	0.60100*** (0.11300)	0.13100* (0.07850)	0.12200*** (0.04290)	0.11800*** (0.02770)
Leverage	-0.01980 (0.02160)	0.06160 (0.04300)	0.03360 (0.03790)	0.08230** (0.03270)
Interest Rate	0.06430** (0.03030)	-0.06350 (0.09580)	-0.07410*** (0.01730)	-0.01560 (0.05760)
Inflation	0.14400*** (0.02260)	0.03080 (0.05940)	-0.03670** (0.01540)	0.04730** (0.02220)
GDP Growth	0.18800*** (0.02840)	0.05460** (0.01770)	0.09120*** (0.02050)	0.06170*** (0.01240)
Constant	-10.31000*** (1.73300)	-1.51700 (1.37300)	-1.64700** (0.67800)	-2.09600*** (0.46400)
Observations	104,563	104,563	104,563	104,563
No. of instruments	17	13	13	15
AB2	-0.359	-0.689	-0.550	-1.442
Hansen's Test	10.26	2.262	2.124	5.774
F-test	10.43***	20.94***	26.73***	42.64***

In table 4.20 the results of investigating the sensitivity of stock return to accounting information and institutional quality in North American firms are presented. In relation to the combined effect of accounting information and bureaucratic quality the results for North American firms are similar to the results of the pooled sample, Latin America and Afro-Asia. The results indicate that as the combined effect of accounting information and bureaucratic quality increases, stock return increases. This contradicts the results for Australia and Europe.

Similarly, the results for the sensitivity of stock return to accounting information quality and transparency in North American firms is in line with its effect for the pooled sample and all the regions except Australia and Europe. The combined effect of accounting information quality and transparency decreases stock return for firms in North America. In relation to legislative strength and law quality, their combined effect with accounting information results in an increase in stock return. For legislative strength, this is similar to the results of the pooled sample and European firms while it contradicts the results for Latin American, Australian and Afro-Asian firms. Conversely, for law quality, the negative combined effect with accounting information quality contradicts the pooled results and the results for European and Afro-Asian firms while it is similar to the results for Latin Americana and Australian firms.

Table 4.20 The Sensitivity of Stock Return to Accounting Information and Institutional Quality in North America

Table 4.20 presents the two-step system GMM regression result, Windmeijer-corrected standard error, small sample adjustment and orthogonal deviation. All regressions are conducted using dynamic panel data estimation. The dependent variable is *Stock Return (SR)*. *Accounting information quality (AIQ)*, *bureaucratic quality (BQ)*, *legislative strength (LS)*, *transparency (TR)* and *law quality (LQ)* form the independent variables. The firm specific controls are *Stock Return Lag*; *size*, measured as the natural logarithm of total assets and *leverage*, measured as debt to equity. *GDP growth*, the annual economic growth rate, *Inflation*, the annual change in price and *Interest rate* account for the macroeconomic environment. Standard errors are in parentheses; ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Diagnostic tests: (1) The instrument count, (2) number of observations, (3) The Hansen test for over identifying restrictions with the null hypothesis of exogenous instruments, (4) the Arellano-Bond (AB2) test for first and second order serial correlations in the residuals with the null hypothesis of no second order serial correlation, (5) the F-test for joint significance of instruments.

Variables	(1)	(2)	(3)	(4)
SR Lag	-0.29600 (0.19900)	-0.05580 (0.16400)	-0.19700 (0.14100)	-0.15500 (0.15700)
AIQ	0 (0)	-0.23600* (0.12400)	-0.05570* (0.03280)	-0.84400** (0.43000)
BQ	-0.08450 (0.2570)			
AIQ*BQ	0.00049 (0.00407)			
TR		-0.04710 (0.05710)		
AIQ*T		0.05910* (0.03060)		
LS			0.01340 (0.02800)	
AIQ*LS			0.02080 (0.01330)	
LQ				0.01410 (0.11300)
AIQ*LQ				0.17000** (0.08540)
Size	-0.012300 (0.09330)	0.03500 (0.04050)	0.038600 (0.02450)	0.03760 (0.04620)
Leverage	-0.00110 (0.01620)	-0.00306 (0.00726)	-0.00054 (0.00433)	-0.00520 (0.00713)
Interest Rate	-0.01720** (0.00681)	-0.02700*** (0.00665)	-0.03150*** (0.00862)	-0.02390 (0.01710)
Inflation	0.11200*** (0.02510)	0.09960*** (0.01900)	0.11500*** (0.02830)	0.11400** (0.05140)
GDP Growth	0.08660*** (0.01270)	0.08750*** (0.01170)	0.09150*** (0.01710)	0.09490*** (0.01890)
Constant	0 (0)	-0.62300 (0.67100)	-0.94800*** (0.20200)	-0.97900 (1.12900)
Observations	54,611	54,611	54,611	54,611
No. of instruments	15	18	16	16
AB2	-1.577	0.720	-0.314	0.164
Hansen's Test	5.007	5.891	4.204	6.098
F-test	22.97***	48.03***	89.80***	35.32***

In summary, on a regional basis, the results show that the interaction of accounting information quality and bureaucratic quality and transparency is positive for all regions except firms in Australia and Europe. On the other hand the interaction of accounting information quality and law quality is positive for all regions except firms in Europe. A possible explanation for the negative relationship between stock return and the interaction term of accounting information quality and the institutional quality measures is that countries with high institutional quality scores are viewed as low risk and as such, they do not fetch high rewards for investors.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary and conclusions drawn from the entire study. It begins with the summary of results based on the analysis in the preceding chapter, draws a conclusion based on the results and follows with recommendations drawn from the conclusion.

5.2 Summary of results

Concerning the measures of accounting information quality, the study shows evidence that earnings are persistent. This provides evidence that a firm's current earnings are influenced by its earnings in the previous year. The regional evaluation also shows that while earnings are persistent across all regions, cash flows showed a higher persistence. This show that cash flows contain more information about a firm's future performance than do earnings. With regards to conservatism, the study provides evidence to support Basu (1997) hypothesis that firms that practice conservative accounting recognise losses more speedily than gains. These losses are however transitory and likely to revert to gains in future periods. The study also reveals evidence of earnings management among listed firms.

In relation to the relationship between accounting information quality and institutional quality, the study provides empirical evidence that institutional quality positively affects accounting information quality. Of the institutional quality measures employed, bureaucratic quality and transparency have a significant effect on

accounting information quality while law quality and legislative strength have an insignificant effect on accounting information quality.

On the effect of accounting information quality and institutional quality on stock return, the study finds no significant association between accounting information quality and bureaucratic quality and stock return. However, transparency and legislative strength have a significant positive impact on stock return while law quality has the opposite effect. The interaction terms of accounting information quality and bureaucratic quality and accounting information quality and legislative strength have a positive significant relationship with stock return. On the other hand, the interaction of accounting information quality and legislative strength has a negative effect on stock return.

5.3 Conclusion

The main objective of this study is to analyse accounting information quality and investigate the effect of accounting information quality and institutional quality on stock return. The study employs financial data of 39,490 listed firms covering the period from 1995 to 2013. To achieve this objective the study analyses three measures of accounting information quality namely, persistence, conservatism and earnings management. Earnings management is then selected as the proxy for accounting information quality in the panel regression models. The first model analyses the relationship between accounting information quality and institutional quality while the second model investigates the effect of accounting information quality and institutional quality on stock return. In the third model the study investigates how the interaction of accounting information quality and institutional quality impact on stock return. The models were estimated using System GMM.

On the three measure of accounting information quality, the study provides empirical evidence that cash flows are more persistent than earnings and thus provide better information about a firm's future performance. Additionally, there is evidence to show that practicing conservative accounting results in the recognition of losses which tend to revert to gain in future periods. The evidence of earnings management as measured by discretionary accruals and the implication of conservative accounting on earnings provide some explanation as to why earnings appear less persistent in relation to cash flows. The results also show that current institutional systems do not curb earnings management behaviour among firms. This implies that there is still room for judgment in financial reporting and listed firms are able to take advantage of discretion allowed in current reporting rules to influence reported earnings.

With regards to the determinants of stock return, the study provides evidence that accounting information quality does not significantly influence stock return for the pooled sample. However, although higher levels of transparency and law quality imply a low risk environment and therefore investors require a lower return on stocks, the effect on stock return is positive. The interaction effect shows that for firms in countries with higher bureaucratic quality and legislative strength earnings management positively affects stock return. On the other hand, law quality has the opposite effect.

5.4 Recommendations

The following policy recommendations arise from this thesis. The study provides evidence of earnings management among listed firms and shows that current institutional mechanisms contribute to this behaviour. It is therefore recommended

that policies and regulations are formulated to target this behaviour in order to reduce the freedom provided by current reporting requirements that allow earnings management. Furthermore, since investors rely heavily on this information, they should supplement it with other sources of information about firms which are not subject to judgment and manipulation by managers.

Additionally, the study provides evidence that firms' stocks respond to the institutional environment in which it operates. Therefore, policy makers, lawmakers and others who shape the environment in which firms operate should be mindful of this when formulating policies. Specifically, those charged with setting accounting standards should review standards in order to improve the reporting quality of accounting information produced. Moreover, investors should consider the institutional environment in which a firm operates to help shape their expectation of the level of return their investments may bring. Furthermore, the study highlights the systematic effect of institutional factors on a firm's stock behaviour. Therefore, to truly be protected against such risks, investors should diversify their portfolio across countries and not just across industries.

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