UNIVERSITY OF GHANA

TRANSFER PRICING, EARNINGS MANAGEMENT, AND TAX AVOIDANCE

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DECLARATION

I, Philomina Acquah, an MPhil (Accounting) student of the University of Ghana Business School, do hereby declare that this thesis is the product of my original research work. I also declare that this piece of work or any part thereof has not been submitted by any student in this University or any institution of higher learning.

…… ……..

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CERTIFICATION

I, the undersigned, do certify that this thesis was supervised in accordance with the procedures laid down by the University of Ghana.

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DR. WILLIAM COFFIE DATE
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(SUPERVISOR)

DEDICATION

To appreciate His loving, kindness and mercy in my life throughout this program, I humbly dedicate this thesis work to the Almighty God.

I also dedicate this work to my lovely mother, for her numerous financial support and encouragement towards the completion of this program.

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LISTS OF ACRONYMS/ABBREVIATIONS

TP……Transfer Pricing

EM……Earnings Management

MNCs……Multinational Companies

GDP……Gross Domestic Product

OECD……...Organization for Economic Cooperation and Development

IFRS……International Financial Reporting Standards

GRA……Ghana Revenue Authority

MNE……...Multinational Enterprise

CUPM……Comparable Uncontrolled Price Method

CPM……..Cost Plus Method

RPM……..Resale Price Method

CFO……Chief Finance Officer

IPO……..Initial Public Offering

SEO……Seasoned Equity Offerings

ABSTRACT

Employing a dataset from multinational companies (MNCs) in Ghana, the study takes advantage of the ongoing issues concerning international transfer pricing as a platform to examine the impact of transfer pricing (TP) abuses on tax avoidance. The study again takes advantage of the new growing area of literature on earnings management (EM) to specifically examine the effect of earnings management on tax avoidance from the perspective of both financial non-financial MNCs. The study employed panel estimation regression analysis and revealed that transfer pricing is positively related to tax avoidance for both financial and non-financial multinational firms. The result shows that multinational companies that manipulate their transfer prices based on the jurisdiction of their related entities have the chance of reducing their corporate tax liability. Similarly, the study findings also depicted that earnings management associate positively with tax avoidance for both firm categories implying that MNCs that manipulate their reported profit avoid more taxes. Furthermore, the study revealed that non-financial MNCs manipulate more earnings than the financials whiles the financials also employ more TP than non-financials. The sensitivity of TP and EM impact positively on tax avoidance for the financial firms indicating that TP strategies complement firms' actions to manage their earnings (EM). The study further established that the sensitivity of TP and EM has a significant negative relationship with tax avoidance for the non-financial firms. This means that TP and EM are not complementary, they do not override on each other, they are independent and can explain their effect on tax avoidance. The study result further indicates that TP and EM are independent determinants of international tax avoidance. The result also depicts that the combined effect of TP and EM is less than the sum of the individual effects. This implies that when both strategies are employed, the impact of TP on tax avoidance is higher only when the value of EM is low and vice versa. Finally, the study recommends that since tax revenue plays an important role in national development and at the same time contribute to a country's GDP, practices that result in revenue losses should be eliminated. Hence, both the practice of TP abuses and EM whether their individual or combined use should not be entertained since they result in loss of government revenue which it impacts on national development is unquantifiable.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Globalization allows the flow of the financial resources from developed countries into the emergent economies (Tomedi and Schreiber, 2014). The rising pace of globalization has driven the concert of nations and state due to the flexibility of transfer pricing and its role in avoiding taxes by redirecting public revenue to shareholders (Willmott, 2010). Globalization has come to eliminate the limitations of the territorial jurisdiction of corporations and has paved an easier way of establishing subsidiaries, affiliate joint ventures, special purpose entities and trust in jurisdictions with favorable conditions to benefit from low tax-havens.

Accordingly, Chang & Lin (2010) stated that multinational corporations derive various benefits from international trade. Such benefits include trade expansion, job opportunities, transfer of technology, the flow of international market information, frequent promotion of industries, technical research and development, economic growth and increased taxes. Therefore, the multinational corporations attempt to embrace these benefits with the ultimate goal of maximizing global profit and minimizing their global taxes by locating their affiliates in countries with very low or zero tax rate. In an attempt to achieve the goal of global profit maximization and tax minimization, the multinational firms have sorted to several tax avoidance mechanisms which have led to revenue losses of both tax haven countries and developing countries attempting to operate as a tax haven with a low tax rate. These avoidance mechanisms are employed in a manner that allows the MNCs to shift profits from high tax jurisdictions to low tax jurisdictions

The issue of international tax avoidance practices has attracted much attention in the academic literature. Majority of these studies have documented that multinational corporations avoid international taxes using transfer pricing manipulation, thin capitalization, and tax haven utilization. Other mechanisms identified include; payment of intangibles, income shifting and financing structure of affiliate (Day, 1998; Jacob & Jacob, 1996; Chang & Lin, 2010; Henn, 2013; Service, 2008; Brock & Pogge, 2014; Taylor & Richardson, 2012). However, most of these existing studies have documented that transfer pricing manipulation is the main avoidance mechanism employed by these MNCs in an attempt to achieve their goal of global profit maximization and tax minimization objectives (Jansky, 2013; Gravelle, 2009; Pendse, 2012; Abdallah, 2009). Transfer pricing is said to be the medium by which Multinational Companies (MNCs) arrive at a price for goods and services traded within the related entities located in different tax jurisdictions (OCED 2014). Therefore, the taxable profits generated in each of the countries the MNCs operate are extremely affected by these international transfer prices set by the multinationals.

The manipulation of this transfer pricing occurs when a company in an attempt to either purchase or sell to an affiliated entity under-price or over-price the goods or service in question. The reason for this practice is the fact that the companies involved are located in variable different tax jurisdictions (Dyreng & Lindsey, 2009; Slemrod & Wilson, 2009; Clausing, 2003; Cristea & Nguyen, 2013; Brock & Pogge, 2014).

This manipulation then offers an opportunity to the MNCs to relocate profit from countries that these profits originated to countries with lower tax rates. These practices have negatively affected the incomes of countries where these Multinational Companies operate. This effect is frequently

observed in the developing economies as a result of their human capital inadequacies to deal with the complex nature of transactions undertaken within affiliated entities as well as inadequate policies to eliminate such practices. Also, transfer pricing has the propensity to reduce the entitlement of domestic shareholders and employees due to the underreporting of profit.

Such manipulation also undermines the Organisation for Economic Cooperation and Development (OECD) guidelines that regulate intra-company transactions between related parties. These intra-company transactions include the purchase or sale of raw materials, the importation and exportation of goods, capital equipment, patents, technology, management fees, copyrights and intercompany financing. The OECD guidelines stipulate that all intra-firm transactions should be conducted in line with the arm's length principle where a transaction between related entities are carried out as if the transaction took place between two unrelated parties or between the company and an unrelated party. The power underlying the use of TP such that MNCs can minimize tax liabilities through its effective use and as taxes also play a significant role in the national development, TP has become an issue of conflict between MNCs and tax authorities. As the MNCs focus on minimizing tax liability to achieve their goal of maximizing profit, the tax authorities on the other side endeavours to ensure that all taxes accruing to the state are fairly obtained. Transfer pricing has become a very important tax issue across the globe because 70 percent of all international trade takes place within MNCs of which developing countries are no exception (Desai, Foley, & Hines, 2006). Due to this, tax authorities over the world consider transfer pricing manipulation as a major contributing element of revenue losses. According to the Tax Justice Network Africa 2017 report, the government of Ghana lost an amount of GHc 2 billion from transfer pricing abuses from the extractive sector.

With regards to the international tax academic research, TP has been identified to be the main avoidance mechanism. However, from the perspective of the domestic tax literature, earnings management has been the identified as the mechanism of tax avoidance. These strands of literature though have not received much attention, the few studies undertaken have shown that tax avoidance behaviour serves as motivation for earnings management (Wang & Chen, 2012; Graham, Raedy, & Shackelford, 2011). Studies on earnings management have professed that devices such as changes in accounting procedures, taking a bath, income maximization and income smoothing are the major instruments that managers use in managing earnings (Healy, 1985; Scott, 2009). However, the literature on earnings management stipulates that in an attempt to manage earnings, firms structure their transaction in a way that creates differences in the taxable profit and the accounting income (Hanlon & Heitzman, 2010). These empirical studies have outlined that managers manage earnings to report a lower profit to pay less tax (Desai & Dharmapala, 2006; Dhaliwal, Gleason, & Mills 2004; Desai & Dharmapala 2009). These avoidance mechanisms result in loss of revenue which hinders the ability of the government to undertake its social and economic responsibilities (Otusanya, 2011; Taylor & Richardson, 2012b; Sikka & Willmott, 2010).

Taxes play a significant role in any national development. Taxes contribute to about 80% of the total national revenue. According to the World Bank statistics (2017), it is evident that taxes contribute massively to the total revenue of both developed and developing countries. For instance, in 2010 and 2011, Ghana's tax revenue contributed to 13. 4% and 14.9% of its total GDP. China also recorded 10.2% and 14.2% of its tax revenue to total GDP whiles India had its tax revenue contributing to 10.5% and 10.2% of total GDP in 2010 and 2011 respectively. In the same years, USA recorded 8.6% and 9.6%, Canada recorded 11.8% and 11.8%, and finally, Germany recorded

11.1% and 11.4% respectively to total GDP. Due to this important contribution by tax revenue about national development, extra attention should be paid to practices of our firms that result in loss of tax revenue.

Analysing the contribution of tax revenue to the Gross Domestic Product for developing countries, the importance of an effective transfer pricing enforcement and effective measures of eliminating earnings management practices of firms cannot be overemphasized. This study attempts to exploit the possible link between transfer pricing, earnings management and tax avoidance of multinational corporations of developing countries with specific reference to Ghana.

1.2 Statement of the Problem

The literature on tax avoidance behavior of MNCs has received much attention. Most of these studies have largely examined and documented several international tax avoidance mechanisms. These mechanisms include transfer pricing abuses, income shifting, tax haven utilization, use of intangibles and financing structure of affiliate. This strand of literature has indicated that MNCs use these mechanisms to transfer taxable profit from high tax jurisdiction to low tax jurisdiction. The motivation for these practices is to reduce corporate tax liability and to maximize after-tax profit (Day, 1998; Jacob & Jacob, 1996; Chang & Lin, 2010; Sikka & Willmott, 2010; Henn, 2013; Abdallah & Maghradi, 2009; Fisher, 2014).

However, the literature has documented that though the avoidance mechanisms are numerous yet the main mechanism that helps MNCs to engage in avoidance is transfer pricing abuses (Jansky, 2013; Gravelle, 2009; Pendse, 2012; Taylor & Richardson, 2012; Olibe, Rezaee, & Olibe, 2011 Clausing, 2003). Notwithstanding, the above studies have been done with the emphasis on the non-

financial firms but even with the non-financial firms the focus has been on specific sectors and not the entire non-financial firms in a single study. Additionally, the financial sector has been ignored totally on studies regarding transfer pricing, earnings management, and tax avoidance. Almost all the studies have ignored the financial sector for a reason that they are highly regulated and have a different reporting requirement. Aside from the fact that the financial sector has been ignored with the focus on some selected industries from the non-financial sector, none of the existing studies has combined the two sectors in a single study.

The contribution of tax revenue to Gross Domestic Product (GDP) and national development of developing economies is such that practices of firms that result in loss of tax revenue cannot be overemphasized. Hence, the current study attempts to fill this gap by examining the impact of transfer pricing manipulation on tax avoidance of MNCs of developing economies with specific reference to Ghana.

Furthermore, existing literature on earnings management provides scanty empirical evidence on how tax avoidance is used as a conduit to earnings manipulation. The focus of the literature is mainly on managers managing earnings to report a higher profit to receive higher compensation when their bonus or compensation are tied to reported earnings. The other part of this literature has been on other motivations that induce managers to manage earnings.These studies found that managers manage earnings to window dress financial statement prior to public security offering and to avoid violating lending contract. Other reasons include meeting analyst and investors earnings expectation and for the purpose of making initial public offerings (Healy, 1985; Bergstresser & Philippon, 2004; Duong & Evans, 2016; Nagata, 2013; Yang, Hsu, & Yang, 2016; Beneish, 2001). With regards to the relationship between earnings management and tax avoidance,

the literature is scanty. This strand of literature has indicated that managers avoid taxes through the manipulation of earnings. According to Desai and Dharmapala (2009), tax avoidance mechanisms give room for opportunistic managers to pursue self- seeking objectives and manage earnings in ways that provide benefits to managers and that do not benefit shareholders. Thus, managers managing earnings are more likely to insulate themselves by avoiding more taxes as avoidance provides them shield from shareholder scrutiny. Again, minimised tax payment leaves excess "after-tax" cash flow that can either be distributed as extra dividends or invested in profitable projects.

Although the above studies looked at the relationship between earnings management and tax avoidance, the ultimate focus was to find out if this relationship is being necessitated or moderated by other variables. Hence, the studies found that IFRS moderate such relationship, corporate social responsibilities necessitate the relationship and finally documented that such relationship has a negative effect on firm value. Though these studies look similar to the current study, yet the current study differs by looking at whether firms avoid taxes through earnings management and transfer pricing manipulation with the ultimate focus on multinational companies.

Prior studies have therefore failed to exploit how the relationship between transfer pricing and earnings management can jointly influence tax avoidance behaviour of MNC. Thus, this study seeks to examine how transfer pricing and earnings management influence tax avoidance of MNCs operating in developing countries.

1.3 Research Objectives

The study has a broad objective of examining the impact of transfer pricing and earnings management on tax avoidance. The study then decomposes this broader objective into three specific, attainable objectives. These include examining the impact of

i. transfer pricing on tax avoidance
ii. earnings management on tax avoidance
iii. the interaction between transfer pricing and earnings management on tax avoidance.

1.4 Significance of the Study

The relevance of this study can be observed from three different perspectives: research, policy-making, and practice.

The purpose of the current study is to provide further evidence and extend prior research in two ways. Firstly, it provides an empirical relationship between transfer pricing and tax avoidance considering a set of explanatory variables for the Ghanaian market. Secondly, it also provides an empirical relationship of the interaction between earnings management and transfers pricing on tax avoidance which has not been considered in prior research.

Again, concerning policy, this study will inform policymakers and tax authorities about the implication of differential tax rate and hence incorporate such effect in the tax rules and policies to eliminate the loopholes in the international tax rules that MNCs use to adopt tax avoidance strategies. Finally, multinational firms will be informed about the potential effect of the erosion of tax revenue from one county to another and the implication on national development.

1.5 Scope and Limitation

This study investigates the relationship between transfer pricing, earnings management and tax avoidance with the focus on Ghanaian multinational firms. The major limitation of the study is time constraint which limits the scope to only Ghanaian Multinational firms instead of all multinational firms across the globe. Finally, the study period also poses a limitation since some variables used in the study might change, given that the study period is extended. The study period is due to both time constraints and data unavailability.

1.6 Chapter Outline

The study consists of five chapters. The first chapter of the study introduces the entire chapter. It comprises background of the study, statement of the problem, objectives of the study, research hypothesis, significance of the study and outline of chapters. Chapter two provides relevant theoretical and empirical literature review on transfer pricing, earnings management, and tax avoidance. Pertinent issues for an adequate understanding of the transfer pricing, earnings management, and tax avoidance are discussed. Chapter three discusses the methodological techniques employed. The related subtopics that are discussed include research design, population, sample and sampling technique, data collection, model specification, selection of dependent and independent variables and method of analysis. Chapter four (results and discussion) presents and gives interpretations to data collected for the study through the methods stated in chapter three. It reports the findings and the results while discussing the findings in relation to the literature on transfer pricing, earnings management, and tax avoidance. Chapter five concludes the entire study and presents some recommendations. The chapter encompasses summary, conclusion, and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Chapter two of this study presents two different sections. Section one considers the theoretical concepts underpinning the research to elucidate the subject area of this study. The second part of the chapter looks at the relevant empirical contributions of earlier authors in the area of study and their respective findings. In essence, these identify areas which have already been considered to help place the study in a unique perspective regarding contributions worthy to the subject matter.

2.1 Theoretical Framework

This study is backed by the agency theory.

2.1.1 Agency Theory

The agency theory was initiated by Ross (1973) from the economic perspective. Ross economic theory of agency concerning the problem faced by the principal was one of choosing a compensation system that will induce an agent to exhibit behaviour consistent with the principal's preference in a contractual relationship between an agent and his principal. This theory was later extended by Jensen & Meckling (1976). In the research paper of Jensen & Meckling (1976), an agency relationship exist where one party (the principal) engages another party (an agent), and delegates work and some decision making authority to the agent who then accomplishes such work on behalf of the principal. The theory postulates that when both parties are utility maximizers, then the agent will refuse to take actions in line with the principal's interest. This brings about the conflict of interest between insider manager and the outside stockholders of public corporations.

Hence the theory postulates that instituting compensation contract will help to align the interest of managers to that of their shareholders. This compensation contact is based on accounting earnings. Therefore the theory posits that accounting numbers play a central role in mitigating the conflict of interest between managers and stockholders (Jensen & Meckling, 1976).

The theory of agency attempts to define such association using an allegory of contract (Jensen & Meckling, 1976). The theory explains that an organization is a nexus of contract having a set of contractual relationship with providers of funds, suppliers, customers, creditors and so on. As stock ownership is far and remote from control, shareholders are unable to manage their entities on their own, and hence the shareholders hire managers to manage the firm on their behalf. Therefore, managers should take decisions that maximise shareholders value. Nevertheless, this dominant view has not been without criticisms. Freeman (1984) argued that managers should pay attention to all constituencies that can affect the firm. Thus managers' decisions should not consider only the interest of shareholders but include all other stakeholders such as the employees, customers, creditors and the community. Freeman (1984) further indicated that the other stakeholders play a very vital role in the life of the organization and hence their interest should be given equal relevance as given to the shareholders.

Perrow (1986) also contested the agency theory. He argued that the theory focuses on only the agent misrepresenting himself. Thus the opportunistic behaviour of the manager induces him to pursue his interest at the expense of the shareholders. Perrow (1986) felt that the theory is silent on the possibility of the principal, also misrepresenting himself or cheating the agent. He indicated that the principal could also exploit the agent by breaking the contract or not including in the contract matters that violate their self-interest. Therefore, Perrow (1986, p. 15) stated that " agency

theory appears to be ideologically incapable of keeping an eye on both ends of the contract and incapable of noting any permanent asymmetry of resources and power stemming from the context."

Corporate managers have the responsibility to run the affairs of the corporation and therefore have thorough information about the corporation. Such information is not made available to the shareholders resulting in information asymmetry. Information asymmetry occurs when managers have information that shareholders do not have any knowledge of (Scott 2003; Ross, 1973). Such information advantage held by managers increases their ability to exploit benefits from shareholders leading to the agency problem (Healy & Palepu, 2001; Donaldson & Davis, 1991; Jensen & Meckling, 1976). According to Eisenhardt (1989), the agency theory focuses on resolving two main agency problems that are likely to occur in the agency relationship. The first problem befalls when the goal of the agent differs substantially from that of the principal. The second problem also arises when the principal finds it difficult or expensive to confirm the actual performance of the agent.

To prevent such problems from occurring, the shareholder has to incur some cost which is known as the agency cost. According to Jensen & Meckling (1976), the agency cost is the addition of monitoring cost, bonding cost, and the residual loss. This cost is incurred to limit the conflicting interest which exists between the shareholders and the managers (Crutchley & Hansen, 1989; Jensen & Meckling,1976).

Prior studies have investigated and proposed that the interest of shareholders and managers can be aligned through the use of compensation contract (Ross, 1973; Jensen & Meckling, 1976; Eisenhardt, 1989; Demski & Feltham, 1978; Healy, 1985). Specifically, Ross (1973) stated that

where a contractual relationship exists between an agent and principal, the agent should be paid a fee which is agreed upon by the two but such fee should be based on the manager's performance. This, he indicated that when the fee is tied to performance, then the agent will take actions that suit the principal's interest. Jensen & Meckling (1976) also posted an argument that when managers' compensation is tied to their performance, then they will be induced to undertake actions and make relevant decisions that fall in the domain of shareholders aspirations. These postulates were supported by Eisenhardt (1989), but then Eisenhardt differed slightly by proposing two main compensation contracts namely behaviour based contract and outcome-based contract. With these, he argued that shareholders should institute the behaviour based contract where the manager's actions are observable, but where the actions are unobservable, then the outcome based contract should be employed. Eisenhardt (1989) specifically, indicated that shareholders could extract information on manager's action by instituting information systems such as budgetary systems, reporting procedures and governance mechanisms (board of directors).

Several studies on the use of compensation contract as a means of aligning managers' interest to that of shareholders have documented that when managers compensation or bonus is tied to corporate performance, they find ways and means to manipulate earnings so as to achieve an earnings target in order to receive higher compensation (Healy, 1985; Beneish, 2001; Scott 2003). These profits reported do not depict the real underlying economic achievement of the firm and hence mislead shareholders and as well, affect contractual outcomes which are solely dependent on such report (Healy, 1998). Earnings management is defined as the active manipulation of accounting information to create an altered impression of the firm's financial performance, as measured by its earnings (Libby, Mathieu & Robb, 2002). By what means do managers manage earnings? Earnings are managed through the following devices; income minimization, taking a

bath, income maximization, and income smoothing (Healy, 1985; Scott, 2009). However, Donaldson & Davis (1991) documented that the practice of earnings smoothing with the aim of meeting market expectation and earnings target does not create value for the firm but rather result in decisions that destroy firm value. Every company aims to maximize its stock market value, and hence managers who are hired to manage the affairs of the firm on behalf of shareholders are responsible for achieving that aim. Therefore, the decisions and actions of managers should result in value-enhancing (Jensen, 2002; Fama & Jensen, 1983; Jensen & Meckling, 1976).

Tax avoidance is value enhancing. However, managers refuse to undertake such activity as a result of the conflicting interest that exists between managers and shareholders as stipulated by the theory, hence managers only engage in avoidance activities when they stand to gain some private benefit from engaging in such activities. Therefore, managers in charge of taking avoidance decision consider only those decisions that yield some personal advantage.This then supports the assumption underpinning the agency theory that human beings are self-interested characters acting reasonably to maximize their private gains (Jensen, 2005; Donaldson & Davis, 1991: Crutchley & Hansen, 1989). Having recognized that one of the value maximization activity is tax avoidance, the opportunistic behavior of managers induce them to engage in avoidance practices with the intention of diverting proceeds into their pocket.

Desai & Dharmapala (2004) profess that earnings management offers an advantage for devious managers to redirect rent into their coffers at the expense of shareholders. In line with this, Scott (2009) describes earnings management as the medium by which managers transfer shareholders value into their private pocket. Rusmin (2010) stated that earnings management could be seen as a cost because it is a mechanism used by managers to pursue their interest at the disadvantage of

shareholders whiles Bartov, Gul, & Tsui (2000) noted that agency cost includes manager's incentives to manage earnings.

In a modern corporation where ownership is separated from control, the interest of shareholders is safeguarded by instituting some mechanism of checks to extract information on the actions of managers and to align the interest of managers to shareholders. According to Jensen (2005), Fama & Jensen (1983) and Jensen & Meckling (1976), instituting such monitoring mechanisms come with a cost (agency cost) which is borne by shareholders. Monitoring the actions of managers to ensure that their decisions are reflective of shareholders interest is not costless (Jensen & Meckling, 1976).

Studies on multinational tax avoidance have documented that transfer pricing, thin capitalization, tax havens and the financing structure of affiliate are used as tools for avoidance practices (Pendse, 2012; Brock & Pogge, 2014; Taylor & Richardson, 2012; Jansky, 2013; Abdallah, 2009; Clausing, 2009). These studies have outlined that such mechanisms are used to shift income from countries with high tax rate to countries with low tax rate to lessen their corporate tax liability.

2.2 Ghana's Transfer Pricing Regulations 2012 (L.I 2188)

Transfer pricing paves the way for intra-firm transaction to take place between related parties by means of attaching a price to either an intangible property, service or a tangible good transfer from either a parent to a subsidiary or from a subsidiary to a parent or from a subsidiary to a sibling subsidiary. Ghana's transfer pricing regulation is based on the Organization for Economic Cooperation and Development guidelines (OECD). The laws and the rulings are contained in the Income Tax Act 2015, Act 896 and the Transfer Pricing Regulations 2012 (L. I 2188) relating to

an arrangement between persons in a controlled relationship. The enforcement of the law and the collection of taxes are done by the Ghana Revenue Authority (GRA) in the Ministry of Finance Department of the Government of Ghana. The Act specifically states that the income and the tax payable of persons in a controlled relationship should be calculated in line with the arm's length principle. The arm's length principle in the Act demands that person's in a controlled relationship should calculate an amount to be included or deducted from income to reflect an arrangement that would have occurred between unrelated parties or independent parties.

The regulation in support of the Act provides a well monitored administrative structure with the intention to curb the abusive use of transfer pricing by MN firms. The regulation further deals with the minimization of the tax payer's burden, elimination of double taxation and additionally provides parameters for determining comparability and documentation. The regulation also indicates how service arrangement should be made, how intra-group service expense should be subtracted and finally spells out the methodologies for transfer pricing.

According to the regulation, transfer pricing is defined as the determination of prices at which goods, services, and intangible properties are transferred between persons in a controlled relationship (Transfer Pricing Regulation L1288 p. 23). Commercial prices of goods, services and intangible of unrelated parties are determined or are shaped by the independent market forces. However, transactions between related persons in a controlled relationship lack independence in their economic and business relationship and this cause the price charge for the related parties transaction to deviate from those charge for arm's length customer transaction. The lack of independence in the determination of commercial prices for related entities transaction leads to the distortion of profit allocation between related parties as well as their tax liabilities.

The Ghana Transfer Pricing regulation requires the methods employed to set prices for controlled entities to be based on the arm's length principle which is the internationally endorsed standard for transfer pricing between related parties as proposed by the OECD guidelines for goods, services, and intangible properties. The arm's length principle demands transaction between related parties to be conducted as if the parties are unrelated. The Ghana Revenue Authority adhere to the arm's length principle and believes that determining international prices for affiliated entities using such principle is the most appropriate.

The regulation also embraces the issue of comparability to the use of the arm's length principle. Additionally, the regulation indicates that in assessing whether the terms of the controlled transaction meet the arm's length principle or not, it is necessary to compare those terms with the terms of comparable uncontrolled transactions. The difficulty now lies on whether the uncontrolled transaction is indeed comparable. For comparability to be achieved, the regulation demands that the market for operation for both the independent entities and that of the related entities should be similar and as such if differences exist, it should not have a material effect on the prices. The relevant factors for comparing market include; geographical location of the market, size of the market, the extent of competition, availability of substitutes goods and services, transportation cost and the level of the market.

The regulation also requires taxpayers to keep appropriate documentation of transactions to aid the controller and Accountant General to ascertain all the information regarding that entity's income fully and also to be able to demonstrate whether their methods and prices selected satisfy the arm's length principle. The regulation spells out the specific information which should be outlined in the documentation. Such information includes; a general description of the organizational, legal, and

operational structure of the group of associated enterprises of which the taxpayer is a member. Others are any relevant change therein during the taxable period, the group's financial report or equivalent annual report for the most recent accounting period. A description of the group's policy in the area of transfer prices, if any, a general description of the nature and value of the controlled transactions in which the taxpayer is involved or which have an effect on the income of the taxpayer. The documentation also spells out the description of the functions, assets, and risks of group companies to the extent that they affect or are affected by the controlled transactions carried out by the taxpayer. This then includes any change compared to the preceding period. Additionally, the regulation indicates that for each material transaction carried out between persons in a controlled relationship, the parties should provide a description of the transfer pricing method used. The regulation requires simple analysis and documentation for simple and low volume transaction between two related Ghanaian taxpayers. However, for large volume and complex cross-border related party transaction, an in-depth analysis and documentation are required.

Transfer Pricing Regulation 2012 (LI 2188) also spells out that the application of the transfer pricing method which gives rise to a range of prices with margins. Hence, the regulation states that where a tax payer's price or margin falls within the arm's length range, an adjustment will be made to the mid-point of the range. An arm's length range comprises a relatively small number of figures all of which can be considered to be derived from the reliable, comparable transaction.

The regulation also talks about the application of the arm's length principle for intra-group service arrangement. The regulation follows the OECD pricing guidelines about the charging of intra-group services. The regulation provides an array of services that are likely to be carried out by related parties for which a charge must be determined. These services include administrative,

technical, financial and commercial services. However, the regulation outlines three main issues that must be determined when analyzing intra-group service transactions. It determines whether the charge is for a service that is rendered, the service provides economic or commercial value to the recipient of the service and whether an independent person in a comparable circumstance will pay that charge for the service. The OECD (2014) transfer pricing guidelines provide a condition under which an intra-group service could be accepted under the arm's length principle. The condition states that a service is considered an arm's length if an independent enterprise in a comparable circumstance would have been willing to pay for the activity if performed for it by an independent enterprise or would have performed the activity in-house for itself. If the activity is not one for which the independent enterprise would have been willing to pay or perform for itself, the activity ordinarily should not be considered as an intra-group service under the arm's length principle.

The Ghana Transfer Pricing Regulation requires transfer pricing methods to be based on the arm's length standard for tangible goods, services, and intangible properties. The accepted methods include the Comparable Uncontrolled Price (CUP), the Cost-Plus (CP) and the Resale Price (RP) methods. However, the regulation states that where an appropriate fact and circumstance exists on specific cases, then the transactional profit splits and the transactional net margin methods should be used.

Notwithstanding that, the regulation specifically indicates that for any related party transaction, the CUP should be used unless no comparable price can be found. In that capacity, the regulation requires that the cost-plus and the resale methods should be used. The CUP is used under the following condition but not limited to; interest rate charge on borrowing between persons in a

controlled relationship; royalties charge on licensed intangible properties and the price charge for the sale of listed securities. The cost-plus method is also useful in transactions between related parties such as; sale of manufactured goods where the manufacturer does not use unique intangibles, joint facility arrangement or long-term buy or supply arrangement and provision of service. The resale method is suitable in circumstances where an entity executes all functions that are expected to be performed by an independent distributor. In any of the methods, the regulation requires observance of the arm's length principle. A greater clarification on the use of the arm's length principle as stated in the Income Tax Act 2015, (Act 896) is provided in the regulation.

2.3 Empirical Review

This section reviewed earlier studies that have been done in the areas of international tax avoidance through transfer pricing and earnings management. It enables us to know what earlier researchers have done to enable us to position the study to be distinct from existing ones.

2.3.1 Transfer Pricing and Tax Avoidance Review

The growing rate of globalization with the benefits of foreign direct investment has necessitated cross-border and international trade among business corporations (Willmott, 2010; Chang & Lin, 2010; Abdallah, 2009). However, when MNCs are deciding whether to invest at home or abroad to embrace such benefits, the level of tariffs, tax laws and regulations are taken into consideration. These considerations are made to achieve the goal of global tax minimization and profit maximization by embracing the benefits of the low tax rate as well as tax-free policies of the host country (Muhammadi & Ahmed, 2016; Olibe, Rezaee, & Olibe, 2011; Borkowski, 2010; Bartelsman & Beetsma, 2003).

To achieve the global profit maximization and the tax minimization objectives, MNCs have sorted to numerous tax avoidance mechanism as a means for shifting taxable income from high tax jurisdiction to low tax jurisdiction to reduce their corporate tax liabilities. These mechanisms include; transfer pricing, thin capitalization, tax haven utilization and financing structure of affiliates (debt financing). Contract manufacturing and the strategic location of asset and overhead cost are other tools mentioned (Grubert & Mutti, 1991; Choi & Day, 1998; Bartelsman & Beetsma, 2003; Dharmapala, 2008; Gravelle, 2009; Willmott, 2010; Pendse, 2012; Jansky, 2013; Rossing & Rohde, 2014).

Notwithstanding, it has been identified in the extant literature that out of the numerous avoidance practices, transfer pricing is the main mechanism that multinational firms use for their profit shifting practices which result in tax avoidance (Grubert & Mutti, 1991; Choi & Day, 1998; Dharmapala, 2008 ; Dyreng & Lindsey, 2009; Slemrod & Wilson, 2009; Taylor & Richardson, 2012; Cristea & Nguyen, 2013; Jansky, 2013; Brock & Pogge, 2014; Hopland, Lisowsky, & Mardan, 2014; Muhammadi & Ahmed, 2016).

Grubert & Mutti (1991) examined the impact of host country tax rates and tariffs on the stock of real capital controlled by U.S. MNCs. Using a sample of thirty-three (33) countries from 1975-1982 for a cross-sectional empirical analysis, they found a trend of countries with low tax rate reporting higher profit compared to those with the higher tax rate. Choi & Day (1998) examine the simultaneous impact of transfer pricing decision on managerial incentives and total organizational tax liability. Using a model with a vertically integrated firm with two divisions, the model was extended to include taxes. The study investigates the role that transfer pricing plays when divisional profit is tax at the different marginal rate. Choi & Day (1998) found that transfer pricing

is used to reduce profit in high tax jurisdiction when divisional profits are tax at the different marginal rate. Further, they examined transfer pricing and compensation contract and documented that transfer pricing has no impact on the optimal incentive contract when managers can be compensated using multiple performances. Bartelsman & Beetsma (2003) examined differences in corporate tax rate and their responses to profit shifting behaviour using sixteen (16) OECD countries from1979 to 1997. Adopting a new method, the effect of income shifting was separate from the effects of tax rates on real activity. They documented that approximately, 65% of the extra profits accruing from a unilateral tax increase is lost due to income shifting resulting from the use of transfer pricing. Desai et al. (2006) indicated that MNCs use tax havens for tax avoidance through transfer pricing by allowing taxable income to be transferred from high tax jurisdiction to low tax jurisdiction and by redirecting the amount of local taxes paid on foreign income.

Furthermore, Dharmapala (2008) examined the result and causes of the existence of tax-haven countries and stated that tax havens help US MNCs to minimize their corporate tax liabilities. However, the paper indicated that the main mechanism that MNCs use to achieve this is the strategic use of transfer pricing. Dyreng & Lindsey (2009) probed the consequence that tax havens and other foreign jurisdictions have on the income tax rates of multinational firms based in the United States. They found that US firms with a majority of their operations situated in one or more tax haven country report profit that is approximately 1.5 percentage point lower than those without substantial operations in any tax haven country. The study further indicated that tax haven encourages tax avoidance through transfer pricing. Slemrod & Wilson (2009) investigated the role that tax havens play in the world's economy using a framework of a tax haven and tax competition. Slemrod & Wilson (2009) documented that eliminating fully or partially the existence of tax havens would lead to an improvement in the welfare of the non-tax haven countries. This is

because MNCs use transfer pricing to shift taxable income thereby eroding out the tax revenue of high tax jurisdiction depriving them of national development. Again, Taylor & Richardson (2012) examined the effect of thin capitalization, transfer pricing, income shifting, multinationalism and tax haven utilization on international tax avoidance and found that these mechanisms associate significantly with tax avoidance. Their result further indicated that transfer pricing and tin capitalization are the primary mechanisms. This was attributed to the degree of association and the significance of the regression coefficient.

Cristea & Nguyen (2013) also examine how the manipulation of transfer prices of exported manufactured goods are used for profit shifting. Using Denmark multinational firms from 1999 to 2006, they reported evidence that MNCs can shift profit via transfer pricing abuses. Moreover, the study found evidence that Danish MNCs with affiliate located in low tax countries reduce their profit of export between 5.7 to 9.1 percent on the average. This is supported by Clausing (2003) that firms have the incentive to under-price goods sold to low tax countries to shift profit to low tax location. Cristea & Nguyen (2013) again indicated that the under-pricing of goods sold to low tax countries led to the reduction of export revenue of $141million in the year 2006 which resulted in a loss of taxable income of approximately 3.24 percent of Danish MNCs tax returns. Jansky (2013) investigated the link between tax evasion and avoidance, profit shifting and tax havens using a sample of 1500 MNCs in India in the year 2010. They found that subsidiaries located in tax havens reported 1.5 percent less profit. Jansky (2013) stated that transfer pricing is one of the main mechanism that MNCs use for shifting income. Brock & Pogge (2014) also indicated that MNCs use transfer pricing to shift profit from high tax jurisdiction to low tax countries and move expense to jurisdictions where the tax rate is comparatively higher. Hopland et al. (2014) examined the flexibility to revert earnings management strategies by MNCs within a tax year where the firm

makes operating losses. Using data on Norwegian firms, they documented that transfer pricing offers an opportunity to alter profit shifting ex-post. They did not find evidence of flexibility in capital structure. This finding contradicts the work of Cristea & Nguyen (2013), Bartelsman & Beetsma (2003) and Gravelle (2009) who have shown that capital structure is an income shifting mechanism use by MNCs. The results from these studies are mixed. Muhammadi & Ahmed (2016) examined the challenges face by Indonesian tax auditors in auditing transfer prices of intangible assets. Using a semi-structured and an open-ended interview with tax auditors in Indonesia, they documented that tax auditor in Indonesia encounter difficulties during the audit of transfer pricing of intangible properties. The difficulties include lack of transparency in taxpayers' bookkeeping, limited taxpayers' cooperation in providing data and document and transfer pricing regulation. This indicates that MNCs manipulate their transfer prices to achieve their desired objectives. It is clear from the existing literature that since 1991 to 2016, transfer pricing has been the major tool that MNCs use for their income shifting behaviour in avoiding taxes. However, Chang & Lin (2010) argued that Taiwanese MNEs manipulate their transfer prices, but the issue of tax minimization is not the brain behind such manipulation. The study further indicated that among the Taiwanese MNEs, transfer pricing abuses is driven by some underlying factors such as winning maximum economic profits, enhancing the competitiveness of the enterprise, and effectively repatriating profits to parent companies to facilitate greater economic profits. Notwithstanding, Chan, Lo, & Mo (2015) also indicated that transfer pricing is considered the most common form of tax avoidance by Tax officials.

Other previous research on the use of transfer pricing for shifting income leading to the erosion of tax revenue of high tax countries includes (Bernard, Jensen, & Scott, 2006; Clausing, 2009; Abdallah, 2009; Sikka & Willmott, 2010; Borkowski, 2010).

Bernard et al. (2006) examined the variations in prices set by MNCs for their arm's length and related party customer transactions using US-based MNCs from 1993 to 2000. The researchers found evidence of US exporters charging higher prices for arm's length transactions than their related party transactions. Further, they also found that the arm's length and the related party prices have differential effect from fluctuations in exchange rate. Clausing (2003) using data on export and import product prices collected by the Bureau of Labour Statistics (BLS) from 1997 to 1999, examined the rate at which related party prices are affected by country's corporate tax rate. The BLS data identify intra-firm transaction separately from the arm's length transaction. She found supporting evidence that higher taxes abroad are related to higher export prices for related party transaction. She also found evidence that a 1 percent drop in taxes abroad decreases U. S. export prices between related parties by 0.9 to 1.8 percent. Abdallah (2009) investigated the way that MNCs can design an effective transfer pricing systems of intangible assets with special consideration of the effect of e-commerce using U. S. multinational firms. He concluded that global earnings could be managed effectively when a transfer pricing system is designed with both tax and non-tax strategies. Sikka & Willmott (2010) indicated that transfer pricing is a tax avoidance mechanism. Richardson, Taylor, & Lanis (2013) also analyzed the key factors of transfer pricing assertiveness as a medium through which firms lessen their corporate tax liabilities significantly. Using a sample of 183 publicly listed firms in Australia in the year 2009, they documented that firm size, profitability, leverage, intangible asset and multinationalism all relate positively and significantly with transfer pricing ferociousness.

Tax avoidance strategies adopted by MNCs in developed countries have been well documented since the 1990's. These studies have provided enough evidence that MNCs employ several methods primarily transfer pricing to shift profit from high tax countries to low tax countries in

order to reduce corporate tax liability (Grubert & Mutti, 1991; Choi & Day, 1998; Cristea & Nguyen, 2013; Jansky, 2013; Brock & Pogge, 2014; Dharmapala, 2008 ; Dyreng & Lindsey, 2009; Slemrod & Wilson, 2009; Taylor & Richardson, 2012b; Hopland, Lisowsky, & Mardan, 2014; Muhammadi & Ahmed, 2016).

The focus of these studies has been on profit shifting behavior of MNCs via transfer pricing where the back-to-envelop calculation model has been effectively used. This model has been extended to include taxes allowing researchers in international tax avoidance to examine how MNCs manipulate transfer pricing in response to differences in countries tax rate. These studies have proven that MNCs overprice their product when selling to their affiliated entities that are located in high tax jurisdiction. They also artificially underprice product sold to affiliate located in low tax jurisdiction (Choi & Day, 1998; Bartelsman & Beetsma, 2003; Cristea & Nguyen, 2013; Slemrod & Wilson, 2009; Hopland et al., 2014).

Chang & Lin (2010), Pendse (2012) and Rossing & Rohde (2014) who also provided evidence of transfer pricing as an avoidance mechanism conducted a literature review studies. Rossing (2013) conducted a case based research on the impacts of management control system (MCS) in a multinational enterprise (MNE) which faces transfer pricing tax risks. Out of the numerous studies on transfer pricing, only Richardson et al. (2013) constructed an index for transfer pricing when they examined the main elements of transfer pricing aggressiveness as a means by which firms can significantly reduce their corporate tax liabilities. Taylor & Richardson (2012) also constructed an index for transfer pricing in a study where the focus was to determine the effect of transfer pricing on tax avoidance.

All these studies have had their focus on income shifting through transfer pricing to avoid taxes. Earning management proxies have not been included or tested in any of the above studies except the study conducted by Scott, Hanlon, & Maydew (2012).

Scott et al. (2012) examined where companies managed earnings using a sample of 2,067 U.S. multinational firms from 1994 to 2009, but their study focused on the rule of law and tax haven intensity. Two discretionary accruals were tested as proxies for earnings management. They examined whether the local legal systems of the firm's subsidiaries affect the firm's propensity to engage in earnings management. They further examined whether having subsidiaries in tax havens is associated with more earnings management. The study found evidence that firms that have extensive foreign operations located in jurisdictions with the weak rule of law have more foreign earnings management than companies with affiliates located in countries with the strong rule of law. They also found that firms that are highly profitable with extensive tax haven subsidiaries manipulate their reported profit more than other firms and that the earnings management is concentrated in overseas income. Furthermore, the paper found other evidence that most earnings management take place in domestic income, not foreign income. Scott et al. (2012) is closer to my study but focuses on rule of law and haven intensity and not transfer pricing. Interestingly, all the above studies have been conducted from the perspective of the developed countries with less emphasis on the developing countries.

2.3.2 The Role of Transfer Pricing

Previous research on the role of transfer pricing in the organization includes that of Sikka & Willmott (2010), Rossing & Rohde (2014), Cools, Emmanuel, & Jorissen (2008), Borkowski (2010) and Chan, Lo, & Mo (2015).

Sikka & Willmott (2010) examined how the distribution of economic surplus is done through the use of transfer pricing and found that transfer pricing is an instrument for resource allocation and tax avoidance. Rossing & Rohde (2014) conducted a literature review of empirical transfer pricing studies and indicated that transfer pricing interacts with many organizational aspects including resource allocation between separate entities, performance evaluation of business entities and individual managers and tax management and business strategy. The findings of Rossing & Rohde (2014) is supported by Cools et al. (2008) that transfer pricing is a means by which the actions or part of the organization are integrated and differentiated and to assess their performance. Borkowski (2010) analyses transfer pricing strategies of MNCs. Employing a qualitative research, tax authorities from four countries including Australia, Canada, Japan and the United States were interviewed. He documented that transfer pricing is used to achieve higher divisional profit if managerial compensation is based on such profit and also use to shift income. Chan et al. (2015) stated that MNCs use transfer pricing to manipulate reported profit. Furthermore, they indicated that international transfer pricing is a financial management mechanism and as such allows MNCs to move funds internationally. Transfer pricing is a management tool (Rossing, 2013).

Pendse (2012) argued that tax liability management is not the only objective behind the pricing strategies of MNCs. He then indicated that other objectives such as risk management, strategic and investment objectives and management control activities also influence the pricing decisions of MNCs. Clausing (2009) and Chang & Lin (2010) also stated that transfer pricing is used to; obtain goal congruence, assist in evaluating subsidiaries performance, to maximize profit and to minimize taxes.

2.3.3 Factors influencing the choice of a particular transfer pricing method

Internal and external factors influence the choice of a particular transfer pricing methods. Such factors include enterprise overall operating profit, host country's subsidiary's interest and host country's demand for maintaining appropriate cash flows (Tang, 2016). Chang & Lin (2010) conducted a systematic analysis of the motives of transfer pricing. Both internal and external motives were examined through interviews and questionnaire survey. The external motives include minimization of overall global tax minimization of tariffs and import/export duties, maximization of export profits and reduction in foreign exchange risks. Other motives include to ensure repatriation of profits and Capitals, increasing enterprise asset values, avoidance of local controls of capital and to reduce the local political risks. The internal motives include helping the joint venture to get the maximized economic profits, assisting the joint venture acquiring the support on price increase, assisting the joint venture avoiding antimonopoly restriction, assisting the joint venture to reduce the book profits to avoid the request on salary increase, for supporting a new subsidiary and to enhance the competitiveness at the host country. Out of the numerous motives, the authors found maximization of economic profit and enhancement of competitiveness as the driving forces behind transfer pricing manipulation.

Furthermore, Chang & Lin (2010) indicated that some of these motives induce MNCs to charge higher prices for their intra-firm transactions whiles others induce them to charge low prices. MNCs also manipulate their transfer prices to achieve higher divisional profit to receive higher compensation when such compensation is tied to reported divisional profit (Borkowski, 2010). Again, Borkowski (2010) examined how variables such as demographic, financial, tax and behavior influence the choice of transfer pricing method by MNCs. He found no evidence for

financial and tax variables. However, evidence was found for demographic and behavioral variables influencing the choice of a particular transfer pricing method. With the demographic variables, the authors found that the choice of transfer pricing method is significantly related to domicile countries. The findings indicated that majority of U.S TNCs used profit-based methods, while non-U.S. TNCs preferred transaction-based methods. For the behavioral variables, it was found that both advance pricing agreement status and Pacific Association of Tax Administrators (PATA) awareness were significantly related to the transfer pricing methods choice. The authors indicated that TNCs with advance pricing agreements chose transaction-based methods more often than profit-based methods and also stated that TNCs familiar with PATA chose transaction-based methods more often than profit-based methods.

Rossing & Rohde (2014) asserted that the design of transfer pricing system is influenced by external, internal and transfer variables. These variables influence the design of transfer pricing system. The system is expected to produce four outcome variables. The outcome variables include functional, economic, organizational and strategic performance. The authors documented that out of the numerous variables the most significant determinant of transfer pricing is tax regulation which is an external variable. Borkowski (1997) examined whether factors such as organizational, environmental and financial influences the transfer pricing choices of Japanese and U.S MNCs. Employing a questionnaire survey from eight research questions, they found evidence that in selecting a pricing method, Japanese TNCs consider performance evaluation concerns more important than American TNCs. Also, the study indicated that American TNCs prefer the use of cost-based method than the market and the negotiated methods whiles the Japanese TNCs show preference for market and the negotiated methods than the cost-based methods which are supported by Japanese preference for collectivism and consensus. They indicated that environmental and

organizational factors do not influence the choice of transfer pricing methods but instead the MNCs are influenced by their income shifting and their tax minimizing strategies. The authors concluded that differences in transfer pricing regulation of these countries influence their choice of transfer pricing method.

2.3.4 Transfer Pricing Methods

Both the Ghana Transfer Pricing Regulations 2012 (LI 2188) and the Organization for Economic Cooperation and Development have indicated that for tax consequences purposes, related party transactions should be based on the arm's length principle. However, many studies have indicated that applying the arm's length principle in practice is difficult especially in situations where related parties conduct business that independent parties would not undertake or where related parties trade in goods that do not have immediate market for comparable prices to be determined (Abdallah & Maghradi, 2009 and Chang & Lin, 2010). In such situations, the OCED guidelines require the usage of the other traditional methods in line with the arm's length principle. Borkowski (2010) documented that MNCs deviate from the arm's length principle when their profit maximization and tax minimization objectives do not align with the principle. He further stated that MNCs are to employ the arm's length principle, but they deviate when the principle does not align with mangers self-interest when compensation is based on managers divisional profit. The arm's length principle states that transactions between related parties should be carried out as if those parties are unrelated. MNCs are to evaluate their intra-firm transaction using the arm's length principle. The evaluation should be done in line with the following transfer pricing methods; the comparable uncontrolled price methods (CUPM), the resale price method (RPM), cost plus method (CPM), transactional net margin (TNM) method and profit split method (PSM).

2.3.4.1 Comparable Uncontrolled Price Methods CUPM)

Under this method, the price charge for goods, property or services transferred in a controlled transaction is compared to the price charge for goods, property or service transferred in a comparable uncontrolled transaction in comparable situations. The Ghana Transfer Pricing Regulation 2012 (L.I 2188) states that where the transfer of the item is comparable in all material respect to the transfer between persons in a controlled relationship, then such price becomes a comparable uncontrolled price.

2.3.4.2 Cost Plus Method (CPM)

The cost plus method begins with the initial cost incurred by the supplier of the goods, property, or service in a related party transaction. A fair markup is then added to the initial cost to make a fair profit which compensates the functions to perform taking into account the assets used; risk assumed and market conditions. The figure derived after adding the markup to the initial cost is the arm's length price of the controlled transactions. The markup calculated is made in reference to similar internal and external uncontrolled transaction. The regulation indicates that the mark-ups are determined by reference to mark-ups on similar items sold at arm's length by the same supplier or by comparable sellers under the same condition.

2.3.4.3 Resale Price Method (RPM)

The resale price method begins with the resale price which is the purchase price from a related party and resold to an independent party. An appropriate resale price margin representing the sellers selling and operating expenses in light of duties performed is deducted. The remaining

figure is considered as an arm's length price of the previous transfer property between the related parties.

2.3.4.4 Transaction Profit Split Method

The transaction profit split method evaluates the net profit margin to an appropriate base such as sales, cost or assets that a person realizes from a control transaction. This is then compared with the result achieved by an independent person in a similar transaction.

2.4 Earnings Management Review

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy & Wahlen, 1999). The literature on earnings management suggests that earnings management occurs when managers have the desire to achieve an earnings target. The literature concludes that management of earnings results in recording more profit in one accounting period as against other accounting periods. Studies on why firms or managers manage earnings include that of Healy (1985), Scott (2009) and Beneish (2001).

Healy (1985) assessed the relationship between compensation incentives and decisions in accounting procedures. The focus of the study was on firms that use bonus plans to remunerate managers or firms whose compensation is based on bonus plans. Considering two classes of test, the accrual and changes in accounting procedures, he found evidence of a relationship between managers' accruals policies and their reporting incentives under the bonus plan. They also found an inverse relationship between changes in accounting procedures and bonus plan incentives.

Additional test performed indicated that bonus plans modifications are associated with changes in accounting procedures. Jones (1991) investigated whether firms attempt to decrease earnings through earnings management in order to benefit from import relief. A cross-sectional analysis of 23 firms from five industries indicated that earnings are managed downwards during import relief investigations. They concluded that the sample firms decrease earnings to receive import relief benefits.

Healy (1985), Healy & Wahlen (1999), Beneish (2001) and (Scott, 2009) have all stated that managers desire for managing earnings are driven by some underlying motives. They cited the following examples: window-dress financial statement prior to public security offerings; increase corporate managers compensation and job security; avoid violating lending contract; meet analysts and investors earnings expectations and maintain reputation; reduce regulatory cost or increase regulatory benefits and for the purpose of making initial public offerings.

Some studies have examined the compensation based contract and their association with earnings management. Healy (1985) examined the association between bonus based compensation contract and earnings management. He documented that managers manipulate earnings to ensure increased bonuses compensation when their compensation is based on such earnings. Bergstresser & Philippon (2004) examined the association between stock-based CEO compensation and the use of accruals. They found that companies with CEO compensation and at the same time more sensitive to firms share prices manipulate earnings more. Duong & Evans (2016) examined the impact of CFO gender on CFO compensation and earnings management. Using publicly listed Australian firms from 2006 to 2010, they indicated that CFOs who are women deliver higher reporting quality and are very conservative than male. They concluded that female CFOs engage

substantially less in both accrual-based and real based earnings management than that of male CFOs. Watts & Zimmerman (1978) stated that compensation contracts create an incentive for earnings manipulation because it is likely that seeing through earnings management by the compensation committee and creditors are costly. All these studies have provided evidence of a direct relationship between compensation incentives and earnings management.

Other studies on earnings management have indicated that earnings are manipulated with the motive of meeting regulatory requirement. Managers in the banking and the insurance industries manage earnings to meet regulatory requirement when such requirement is tied to accounting numbers. Specific accrual such as the loan loss provision is used by the bank and the use of claim loss reserve by the insurance industries to manage earnings (Grace & Leverty, 2012; Grace & Leverty, 2010; Cornett, Mcnutt, & Tehranian, 2006; Ahmed, Takeda, & Thomas, 1998).

Coppens & Peek (2005) examined whether private firms also manage earnings and whether the aim of avoiding taxes influence such practices. They compared the earnings distribution of private firms to public firms from eight European countries. They documented that earnings manipulation occurs even in periods where capital market pressures are absent. They also found evidence of private firms avoiding reporting small losses. Their result further indicated that in countries where tax regulations are strict to the extent that accounting figures are affected, private firms are unable to avoid reporting small losses. Their result suggested that some types of earnings management are due to capital market pressures and other types are specific to public firms because they did not find evidence of private firms avoiding earnings decrease.

Prior studies have also revealed that earnings are managed for the purposes of making initial public offerings (IPO). For example, Nagata (2013) examined whether earnings manipulation brings

about the formation of favorable prices. He indicated that firms with aggressive earnings management during the pre IPO period tend to underprice their securities than firms without aggressive earnings management in such periods. Yang, Hsu, & Yang (2016) hypothesize that financial constraints and financial distress risk can drive firms to report greater earnings around seasoned equity offerings. Employing a large sample of companies from 1990 to 2008, their findings confirmed their hypothesis. They concluded that financial constraint and financial distress risk induce firms to report greater earnings around seasoned equity offerings (SEO).

Other empirical studies on earnings management include that of Beneish (2001), Li, Park, & Bao (2014), Dechow & Dichev (2002), Abdelsalam, Dimitropoulos, Elnahass, & Leventis (2016) and Leuz, Nanda, & Wysocki (2003). In a literature review, Beneish (2001) stated that managers adopt income increasing measures to present higher profit to hide the deterioration of performance. Findings from this literature review presented an evidence of a weak association between debt and equity incentives and the management of earnings. His findings also suggested that income-increasing earnings management is more pervasive than income-decreasing earnings management. Li et al. (2014) investigated whether differences exist in the pattern and degree of earnings management across four countries using firm-level data. Using mixed methods for a sample of over two million firms from Brazil, Russia, India, and China, they found evidence of misreporting earnings information among these countries especially China and Russia.

Dechow & Dichev (2002) developed a model of accrual quality that examines the relationship between accrual quality and both firm characteristics and earnings persistence. They documented a negative relationship between accrual quality and the absolute magnitude of accruals, the length of operating cycle, loss incidence and the standard deviation of sales; cash flows accruals and

earnings. They concluded that the above mentioned firm characteristics are observable and can be used as an instrument for accrual quality. Their result further indicated that accrual quality associates positively with earnings management and firm size.

Abdelsalam et al. (2016) examined whether earnings quality is influenced by the organizational religiosity of banks listed in both the regions of the Middle East and North Africa. The study focused on Islamic banking institutions that operate within strict religious norms and with lengthy accountability constraint. These firms were compared with non-Islamic banks operating without these elements from 2008 to 2013. The authors found evidence of fewer earnings management among Islamic banks. Their findings further indicated that the element of moral accountability constraints and religious norms affect reporting quality and agency cost of Islamic banks. Using data from the world Scope Database, Leuz et al. (2003) evaluated the degrees of earnings management across thirty-one (31) countries. They argued that countries with strong investor protection have fewer earnings management.

Studies on earnings management have measured earnings management using the discretionary accrual (Healy, 1985; Jones, 1991; Dechow, Sloan, & Sweeney 1995; Rusmin 2010; Marques et al., 2011; Scott et al., 2012; Hashim et al., 2012; Nagata, 2013; Duong & Evans 2016;Yang et al., 2016). According to Healy (1985) and DeAngelo (1986), the discretionary accrual is the best proxy for earnings management.

2.4.1 Patterns of Earnings Management

The pattern of earnings management according to Healy (1985) and Scott (2009) includes taking a bath, income minimization, income maximization and income smoothing. Specifically, when

management realize that a net loss is likely to be reported in a given period, they then adopt accounting policies that further reduce its current period earnings because managers receive no bonus when earnings target are not achieved. This process is called taking a bath. Management uses this to report a higher loss in a particular period. To achieve this, managers write off assets and provide for the expected future cost. Another pattern of earnings management is income minimization. This is similar to taking a bath but less extreme (Scott, 2009). Firms use this strategy in periods of high profitability. Managers adopt income minimization policies that reduce reported net income. The devices used to achieve this include; rapid write off of capital assets and intangible, expensing of advertising and research and development expenditure. Studies on income minimization and taking a bath include that of Jones (1991), Marques et al. (2011), Dhaliwal et al. (2004) and Frank et al. (2009).

Another pattern of earnings management is income maximization. Under this pattern, managers adopt accounting policies that yield higher income for bonus purposes. Firms that have a higher likelihood of violating debt covenant also adopt policies that maximize income. Such income maximization policies are also used to meet investors and analyst expectation. Devices used include depreciation policies, revenue recognition policies and other expense recognition policies. Studies on income maximization include these; Watts & Zimmerman (1978), Healy (1985), Healy (1998) and Bergstresser & Philippon (2004).

The last pattern of earnings management is income smoothing. This practice is used by managers to smoothen reported income to receive relatively constant earning (Scott, 2009). Managers then use accounting techniques and practices to smooth net income fluctuation from one accounting period to another. Devices used include; deferring revenue during a period if the following year is

expected to be a challenging one or delaying the recognition of expenses in a difficult year because performance is expected to improve shortly. Specific accrual used include; the loan loss provision by banks, allowance for bad debt and warrant expense. Some studies under this pattern include that of Watts & Zimmerman (1978) and Healy & Wahlen (1999).

Thus, studies on the use of accounting policies and specific accruals to manipulate earnings by managers have been well documented.

2.5 Earnings Management and Tax Avoidance Review

The literature on earnings management and tax avoidance has not received much attention. However, the little empirical studies have documented that tax avoidance induces managers to manage earnings. For example, in assessing the level at which Special Payment Account tax policy encourages private companies in Portuguese to engage in earnings management. Marques, Lima, & Craig (2011) employed 6,652 firms from 2001 to 2002. Their finding suggested that the desire to minimize taxes induce managers to manipulate earnings. Using 660 public listed companies in Malaysia from 1998 to 2000, Hashim, Haniff, & Rahman (2012) determined whether listed public companies in Malaysia manipulate their earnings in response to changes in tax policies. They focused on the 1999 year tax waiver effect which caused the Revenue Board of Malaysia in England to introduce the Self-Assessment System of tax in 2001.Their result indicated that the level of current discretionary accruals is independent of the tax wavier year effect. This suggests that earnings management relate negatively to changes in tax rate.

Other empirical studies that have also tested the relationship between earnings management and tax avoidance have concluded that tax avoidance serves as motivation for earnings management.

These studies specifically outline that managers manage earnings to report a lower profit to pay less tax. For example, Desai & Dharmapala (2006) examined the relationship between incentive compensation, governance structures, and corporate tax avoidance. They employed a simple model of managerial behaviour for a very large sample of companies from 1993 to 2002 and showed that equity-based incentives and tax avoidance associated negatively. Their result indicated that the negative relationship applies only to firms with weaker shareholder rights and minor intuitional ownership. Tax avoidance was measured by the abnormal book-tax difference. Desai & Dharmapala (2009) provided specific examples of companies that engage in a tax shelter with the ultimate purpose of increasing accounting income. A review of tax research conducted by Hanlon & Heitzman (2010) stated that in managing earnings firms structure their transaction in a way that creates differences in the taxable profit and the accounting income. He further indicated that managers employ three related tax items to manage earnings. The items are the valuation allowance, the tax contingency reserve and the number of foreign earnings designated as permanently reinvested.

Dhaliwal, Gleason, & Mills (2004) investigated whether companies employ income tax expense to manipulate earnings and documented that tax expense indeed offers an opportunity for managers to achieve earnings target. The study used the GAAP ERT information as a proxy for tax avoidance. Scott (2009) stated that the main reason for managing earnings is income taxation. Additionally, Frank, Lynch, & Rego (2009) found that managers who engage in taxable profits and financial profits manipulation simultaneously manage their book income upwards and also manipulate their taxable profit downwards in the same accounting year.

Yorke, Amidu, & Agyemin-boateng (2016) investigated the effect of earnings management and tax avoidance on firm value. Using a sample of 14 non-financial Ghanaian listed firms from 2003-2012, they documented that managers employ various avoidance mechanisms to manage earnings. Their result further indicated that tax avoidance has a positive effect on firm value yet the magnitude of such effect is too small to eliminate the negative impact of earnings management on firm value. On the other hand, however, Amidu et al. (2016) also indicated that as earnings' manipulative activities increase, tax avoidance activities also increase.

By way of summarizing this section, the chapter reviewed the possible theory and empirical studies that support the subject matter under study. The agency theory was reviewed and the appropriate reasons given to support why the theory was in support of the current study. The chapter also discussed empirical findings on transfer pricing, earnings management, and tax avoidance. The chapter found many studies on transfer pricing and tax avoidance as well as earnings management and tax avoidance. On earnings management and tax avoidance, though much of the studies have been done in the developed countries with some also from the developing countries, the studies had a different goal with a different focus group. Although various studies have analyzed the variables of interest and have established relationships among them, these relationships have been examined independently in all cases. However, studies have failed to exploit how the relationship between transfer pricing and earnings management can jointly influence tax avoidance behaviour of MNCs.

2.6 Research Hypothesis

The study sets three different hypotheses to be tested. Firstly, this study expects a positive impact of transfer pricing on tax avoidance. This means that multinational firms manipulate their transfer

prices in order to facilitate tax avoidance. This is done to achieve the goal of global tax maximization and tax minimization objectives (Muhammadi & Ahmed, 2016; Olibe, Rezaee, & Olibe, 2011; Borkowski, 2010; Bartelsman & Beetsma, 2003). The manipulation of transfer prices increases the ability of multinational firms to shift taxable income from high-tax jurisdiction to low-tax jurisdiction in order to avoid payment of taxes in high tax countries. This hypothesis is set on the argument of the following authorities Bartelsman & Beetsma (2003); Dharmapala (2008); Slemrod & Wilson (2009); Dyreng & Lindsey (2009); Sikka & Willmott (2010) and Olibe & Rezaee (2011); Taylor & Richardson (2012b); Jansky (2013). They argued that multinational firms structure their intracompany transaction and set prices that are either undervalued or overvalued in order to avoid payment of taxes. Therefore these multinational firms engage in tax avoidance via transfer pricing by allowing the reallocation of taxable profits to low tax jurisdiction depriving high tax countries of tax revenue. The hypothesis is stated as:

H_0: There is no impact of transfer pricing on tax avoidance

H_1: There is a positive impact of transfer pricing on tax avoidance

Again, following studies like Desai & Dharmapala (2006a); Desai & Dharmapala (2009); Marques, Lima, & Craig (2011) and Amidu et al., (2016), the study expects a positive relationship between earnings management and tax avoidance implying that the increase of avoidance activities result in more manipulative activities. These authors have argued that tax avoidance and earnings management are complementary such that as one activity increases, the other actors also increases and vice versa. The hypothesis is stated below:

H_0: There is no impact of earnings management on tax avoidance

H_1: There is a positive impact of earnings management on tax avoidance

Finally, the study expects a negative relationship between the interaction between transfer pricing and earnings management and tax avoidance. Mathematically, when a positive variable interacts with another positive variable, we expect the result to be positive. However, in this study, we expect the coefficient of this interaction term to be negative. From the concept of synergy as proposed by Gupta & Ross (2001) the value and performance of two companies' combined are greater than the sum of the separate individual part. This is because when the firms come together, they get access to some benefits such as technical experts, financial benefits and operational benefits which the individual firms do not have on their own. However, in the case of interacting these two variables, it is seen that when the two strategies are put together, they lose even their individual strength of working fully and as such there is no additional benefit when put together. Hence their combined effect is expected to be less than the sum of the individual effect contrary to the concept of synergy.

The sensitivity of earnings management and transfer pricing on tax avoidance is tested through the hypothesis developed below:

H_0: There is no impact of the interaction between earnings management and transfer pricing on tax avoidance.

H_1: There is a positive impact of the interaction between earnings management and transfer pricing on tax avoidance.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The chapter defines the research methodologies employed in this study. It specifies the nature of the study to be conducted and justifies the selection of the study approach. The chapter relays ways of attaining the study objectives, it highlights the specification of the model for the study, defining the variables specified and justifies why those variables are employed. Moreover, the chapter describes the sample and source of data used, and finally discusses the data analysis tools and techniques employed in the study.

3.1 Research Design and Execution strategy

The study investigated the relationship among transfer pricing, earnings management, and tax avoidance. A quantitative design was employed to achieve the research purpose. The choice of this particular design was influenced by some reasons. As reported by Yauch & Steudel (2003), the nature of the quantitative research design is such that, the result generated is solely independent of the researcher. Again, they stated that the design contains process and procedures that reduce the influence of the researcher which in the end produces results which deeply reflect the affairs of the research phenomenon being studied. Also, Dudwick, Kuehnast, & Jones (2006) indicate that the quantitative research design generates results that are accurate and reliable due to its rigorous nature and hence the result stands perfectly a true representation of the whole population. Furthermore, they indicated that quantitative research design is also appropriate for studies with a large number of entities. Regardless of the numerous benefits associated with the quantitative

research design, it is confronted with being unable to give detail report on individual specific issues due to its inability to limit certain vital and significant features of the population under study. Therefore, some essential findings of the study may not be captured by the quantitative research design (Dudwick et al., 2006).

A panel data was generated from secondary data. This data was extracted manually from the audited annual reports of multinational firms in Ghana. The study addresses the first objective by measuring the level of avoidance activities engaged in by managers of the selected firms through the manipulation of their international transfer prices. Specifically, the study follows the approach by Rusmin (2010), Richardson, Taylor, & Lanis (2012) and Amidu, Yorke, & Harvey (2016) to measure tax avoidance as the difference between statutory tax rate and effective tax rate. To measure the transfer pricing aggressiveness or manipulation, the study constructed an index in line with the postulates of Taylor & Richardson (2012b) and Richardson, Taylor, & Lanis (2013).

With regards to the second objective and to test the second hypothesis, the study adopts the earnings management model which was developed by Jones (1991). The model was later modified by Dechow, Sloan & Sweeney (1995) and used in earlier studies on earnings management (Marques, Lima, & Craig, 2011; Bergstresser & Philippon, 2004; Leuz, Nanda, & Wysocki, 2003; Nagata, 2013; Hashim, Haniff, & Rahman, 2012; Xu & Ji, 2016; Amidu et al., 2016). These studies informed the selection of variables used in this model. For measuring tax avoidance, the study still applied the difference between statutory tax rate and effective tax rate in line with the above-mentioned studies. This objective seeks to find out whether firms desire to avoid taxes, by manipulating their reported profit.

About the third objective, which seeks to examine the interactive effect of transfer pricing and earnings management on tax avoidance, the same measurement is applied to all the variables mentioned above.

3.2 Population

The population for the study consists of all multinational companies listed on the Ghana Stock Exchange and the multinational firms on the Ghana club 100 list as well as the multinational firms in the telecommunication industry. Specifically, the population includes banks, insurance companies, non-banking firms, manufacturing and production companies, petroleum, mining, oil and gas companies, service firms and the telecommunication industry. The population was selected based on the research topic and the study objectives as the study sought to evaluate the impact of both transfer pricing manipulation and earnings management on tax avoidance and the impact of the interaction between transfer pricing and earnings management on tax avoidance of multinational firms in Ghana. To achieve the research purpose, the study deemed it appropriate to employ the selected population.

3.3 Sample and Sampling Technique

The sample selection covers firms within the target group. Hence, firms included in the sample are financial and non-financial multinational firms which have their audited annual report available from 2008 to 2015 on Ghana Stock Exchange website, the company's website, and head office of the companies and at the Registrar General Department. This includes non-financial firms and financial firms which consist of banks and insurance companies. The sample then excludes multinational companies in the telecommunication industry due to unavailability of data. Also, all

multinational firms that prepare only consolidated annual reports were excluded. The exclusion was based on the fact that the study focuses on individual companies' annual report where we could examine the individual company's transaction with its related parties rather than group report. Furthermore, because the study focuses on tax avoidance, multinational firms on the Ghana Free zone Board that are legally exempted from paying taxes are also excluded from the sample. As reported by Rohaya, Nor'Azam, & Barjoyai (2008), earnings can be managed either upwards or downwards. Hence, the sample includes all loss-making firms leaving a final sample size of 40 firms made up of 13 non-financial firms and 27 financial firms for the study. The non-financial firms include 7 listed companies and 6 non-listed. This also comprises of 4 manufacturing companies, 3 mining companies, 2 oil and gas and petroleum companies and 4 service companies. The financial firms comprise of 15 banks and 12 insurance companies. The insurance companies are made up of 5 life insurance companies and 7 non-life insurance companies.

Altogether, the sample consists of 320 firm-year observations which cover a period of eight (8) years from 2008 to 2015. The table below shows the resulting sampled size used for the study.

Table 3.1 Sample Size of Firms used for the Study

Industry	**listed**	**Non-Listed**	**Number of Companies**	**Number of Observation**
Financials	7	20	27	216
Non-financials	7	6	13	104
Total	**14**	**26**	**40**	**320**

3.4 Data Sources and Data Collection Instrument

This study depended solely on secondary data specifically the annual reports of the selected companies. The data was generated from the audited annual reports of the companies selected for the study. The audited Annual reports of sampled manufacturing, petroleum, oil and gas and the service companies were downloaded in soft copy format from their official websites. However, the soft copies of some annual reports of the companies mentioned above downloaded online did not contain the notes to the accounts, which contain vital variables such as, the breakdown of the total tax expense, tax payable, depreciation/amortization and the related party transactions used to construct the transfer pricing index. As a result, hard-copies of audited annual reports from the year 2008 to 2015 were directly accessed from the Registrar General Department. Hard-copies of these documents were also obtained directly from headquarters of specific companies whose annual reports were unavailable both online and the Registrar General Department.

The use of secondary data source is deemed to be more appropriate for this research in that apart from its relatively easy access, and preciseness, it is also devoid of subjectivity associated with another mode of data collection such as interviews and questionnaires (Ghauri, 2005). Also, the regulatory framework governing the preparation and presentation of company annual reports helps ensure that the annual report is a reliable and attested public document (Ghazali, 2010). Notwithstanding the numerous advantages associated with the use of the secondary data, it is challenged with it limitation that the researcher has no control over the quality of the data (Saunders, 2009). This, therefore, places a responsibility on the researcher to authenticate the reliability and quality of the data. In an attempt to authenticate these documents, a soft copy

formats of extracted variables obtained online were compared with the hard copies obtained from Registrar General Department.

3.5 Specification of Model Variables

The main variables of interest for this study are transfer pricing, earnings management, and tax avoidance Tax avoidance is measured as the difference between statutory tax rate and effective tax rates. It is predicted that both transfer pricing and earnings management would associate positively with tax avoidance. Several control variables have been selected on the basis of earlier studies and are expected to influence tax avoidance. These variables and how they are measured are discussed below.

3.6 Dependent Variable

To achieve the objectives of the study, tax avoidance would be treated solely as a dependent variable.

3.6.1 Tax Avoidance

Tax avoidance is broadly defined as the reduction of explicit taxes (Hanlon & Heitzman, 2010, p. 137). Yorke, Amidu, & Agyemin-boateng (2016), Taylor & Richardson (2012), Noor, Fadzillah, & Mastuki (2010) and Dyreng et al. (2008), also define tax avoidance as the difference between statutory tax rate (STR) and effective tax rate (ETR). A resultant positive figure means tax savings which is an indication of tax avoidance and a negative figure implies extra tax liability which the firm has to pay. Therefore, tax savings would always be higher if the difference between ERT and STR is wider. The ERT information is used due to it numerous advantages which include; easy

accessibility to data, data alteration impossibilities and finally, the ERT inherently reflects the permanent book-tax differences and all other statutory adjustment made (Frank, Lynch, & Rego 2009). However, the disadvantage associated with the use of the accounting tax expense is that the measurement includes both the current and the deferred tax expenses, where the later may have been estimated from various adjustments made to the deferred tax component (Hanlon, 2005).

According to Hanlon & Heitzman (2010), ETR is defined as the total income tax expense per the pre-tax accounting. Taylor & Richardson (2012a) and Noor et al., (2010) in their respective studies computed the ETR as the total corporate tax expense divided by net profit before tax. However, Yorke et al., (2016) contested this definition of ETR and argue that the definition by Hanlon & Heitzman (2010), only seek to imply that tax planning is just about minimizing the tax burden. They then argue that tax avoidance goes beyond the minimization of tax burden but also seek to postpone the payment of taxes. With this argument, Yorke et al. (2016) modified the numerator by deducting the defer taxes from the total tax expense. This modification was done to cater for the deferment objective of tax planning. The study then employs the ETR information to proxy for the measurement of tax avoidance. Following Yorke et al. (2016), the study measures ETR as total corporate tax expense minus deferred tax expense and divide the result by Net profit before corporate tax. With regards to the statutory rate, an adjustment is required for all reliefs and rebates applicable to the firm in question. Since these reliefs and the rebates have the likelihood of reducing the general statutory tax rate, it is necessary for the needed adjustment to be made to arrive at the actual difference between the STR and the ETR to enhance the validity of the result.

3.7 Explanatory variables

The explanatory variables in this study include earnings management and transfer pricing. These variables are discussed in details with their related measurement.

3.7.1 Transfer pricing

Transfer pricing issues in multinational related party dealings have attracted the attention of researchers over the years. That is to say; transfer pricing is a well-researched area in tax accounting. For example, Chan, Lo, & Mo (2015) stated that transfer pricing is a major instrument used by multinational firms to shift taxable profit from high tax jurisdiction to low tax jurisdiction and therefore tax authorities should be interested in how such tool could be used effectively. In line with his findings, Sikka & Willmott (2010) also emphasized that the transfer pricing extend beyond just an accounting technique but also used for resource allocation and finally employed as an avoidance strategy which affects the distribution of income, wealth, risk and quality of life.

Clausing (2003) found that countries tax rate influences prices charged on intra-firm transactions. Bernard, Jensen, & Scott (2006) documented that the prices that US exporters charge for their arm's length transaction with customers are substantively larger than the prices set for their related entities. Their findings further suggested that this price wedge is higher for goods transfer to countries with lower corporate taxes and higher tariffs. Bartelsman & Beetsma (2003), Jansky (2013) and Brock & Pogge (2014) have all suggested that multinational firms structure their intra-firm transactions to facilitate tax avoidance.

Other relevant research in this area include (Taylor & Richardson, 2012a; Dyreng & Lindsey, 2009; Slemrod & Wilson, 2009; Jansky, 2013; Richardson et al., 2013). For instance, Taylor &

Richardson, (2012a) documented that transfer pricing aggressive involves the shifting of profit to a tax haven merged subsidiary that is subject to a fairly low or no corporate taxes. Dyreng & Lindsey (2009), Slemrod & Wilson (2009) and Jansky (2013) all found that multinational firms with tax haven links report less profit by means of manipulating their transfer prices to push their taxable profit to the tax haven jurisdictions. Finally, Richardson et al. (2013) found a significant positive relationship between tax haven utilization and transfer pricing aggressiveness

Other studies have also documented that differences in tax rate between countries help multinationals to engage in tax avoidance (Clausing, 2003; Bartelsman & Beetsma, 2003; Deasi, 2006). Specifically, Desai, Foley, & Hines (2006) found that transactions between associated entities in different tax jurisdictions offer substantial opportunities to engage in international tax avoidance while Clausing (2003) also found evidence that prices charged for the intra-firm transaction are influenced significantly by countries tax rate.

Some other studies also found that intangible assets offer a great opportunity for multinational firms to manipulate their transfer pricing. This is due to the absence of immediate market to determine the value of intangibles which result also in the difficulty of determining the value of royalty expense attributed to intangibles on arm's length prices (Deasi 2006; Gravelle, 2009; Abdallah & Maghradi, 2009; Richardson et al., 2013; Muhammadi & Ahmed, 2016). Richardson et al. (2013) specifically found a significantly positive relationship between intangible assets and transfer pricing aggressiveness. Again, Grubert (2003) documented that the difference in the interpretation of transfer pricing estimations increases the risk associated with transfer pricing manipulation and the difficulty for companies to describe exactly the transaction under which intangible property transfer occurs. Finally, Dyreng et al. (2008) stated that as a result of certain

features of the intangibles specifically the lack of well-established market and subjective valuations that can be exploited concurrently by a firm in several locations, there is a superior chance to engage in transfer pricing manipulations through the transfer of intangible assets between related entities located in variably-taxed jurisdictions.

The study pulls out three factors from the above existing research to construct a five-item index as a proxy to measure transfer pricing aggressiveness (TP) of the selected firms or to measure the level at which the selected firms are likely to manipulate their international transfer prices. The TP index comprise five dichotomous items, and uses the sum score approach in line with other studies specifically in relation to the construction of corporate governance index and the development of accounting disclosure index (Salter & Niswander, 1995; Aksu & Kosedag, 2006; Brown & Caylor, 2006; Bebchuk, Cohen, & Ferrell, 2009; Aboagye-otchere, Bedi, & Kwakye, 2012; Lanis & Richardson, 2012). In line with the use and application of corporate governance and disclosure related indexes in previous research, the higher (lower) the overall score for TP, the higher (lower) is the level of transfer pricing aggressiveness or the level of possibility of transfer pricing manipulation.

The index includes;

1. Having a subsidiary or a sibling subsidiary located in a tax haven jurisdiction
2. Transacting with the subsidiary or a sibling subsidiary located in a tax haven jurisdiction for the financial year under consideration
3. Having a parent, a subsidiary or a sibling subsidiary located in a country with a different tax rate other than a tax haven jurisdiction

4. Transacting with the related party located in a country with a different tax rate for the financial year under review
5. Payment of royalties associated with intangible assets between related parties for the financial year under review.

Each of the items is scored 1 if present and 0 otherwise. A total score of five is an indication of a higher transfer pricing manipulation, and a score of 0 indicates that the firm does not manipulate its transfer prices. Transfer pricing is projected to relate positively to tax avoidance. The study develops and utilizes this measure because the transfer pricing index used in previous research is not applicable in the Ghanaian context. Again, even though Ghana has transfer pricing regulation which outlines some rules to be adhered to by the multinational firms; and which the researcher could have used to develop an index based on such rules to determine both the magnitude of compliance and non-compliance of the firms about the regulation; this is impossible. The reason is that the regulation requires the firms to furnish annual transfer pricing returns to GRA which spells out some information that should be disclosed on the returns. Unfortunately, the requirement on the returns and the requirement in the regulation are distinct preventing the researcher to develop an index based on the rules of the regulation as a proxy to measure the level of transfer pricing manipulation of the selected firms as done in previous research.

Other studies measured transfer pricing using a dummy variable, but from the Ghanaian context, the item used to obtain such dummy variable is not disclosed on our annual report as disclosed on the annual report of firms in other countries. Some other studies also modelled transfer prices where such models were extended to include taxes to investigate the study objectives. However,

the nature of the current study is such that the use of functions cannot facilitate the achievement of the study objectives.

3.7.2 Earnings Management

Consistent with prior studies, this study uses the discretionary accrual proxy as a measure of earnings management (Jones, 1991; Dechow, Sloan, Sweeney, 1995; Rusmin, 2010; Marques et al., 2011; Nagata, 2013;). The above studies also discuss how the total accrual is decomposed into discretionary and non-discretionary components. The total accrual is then estimated as;

$$TAC_{it} = \left(\Delta CA_{it} - \Delta Cash_{it}\right) - \left(\Delta CL_{it} - \Delta LTD_{it} - \Delta ITP_{it}\right) - DPA_{it} \qquad 3.1$$

Where; TAC_{it} is the total accrual for firm i in time period t; ΔCA_{it} is the change in current assets for firm i in time period t-1 to t; $\Delta Cash_{it}$ is the change in cash balance for firm i in time period t-1 to t; ΔCL_{it} is the change in current liabilities for firm i in time period t-1 to t; ΔLTD_{it} is the change in long-term debt included in current liabilities for firm i in time period t-1 to t; ΔITP_{it} is the change in income tax payable for firm i in time period t-1 to t ; and DPA_{it} is the depreciation and amortization expense for firm i in time period t-1 to t. The non-discretionary and discretionary accruals are the constituent of the total accrual. The non-discretionary accrual depends on the firm's level of activity whiles the discretionary accruals reflect the subjective accounting choices made by managers. Thus managers exercise their discretion over accounting methods and estimate as well as over the timing to recognize accruals. Hence, the study adopts the discretionary portion of the total accruals to proxy for earnings management.

Following the work of previous empirical studies, the most frequently used models for breaking down the total accrual into discretionary and non-discretionary accruals are the Jones (1991) and the modified Jones model (Dechow, Sloan, Sweeney, et al., 1995). This study employs the modified Jones model which according to Dechow et al. (1995) is the most powerful test of earnings management. The total accruals are then regressed on the gross property, plant and equipment and the changes in revenue adjusted for changes in receivables. This is done in line with (Yang, Lai, & Tan, 2008; Rusmin, 2010; Liu, Yip, Lee, & Chan, 2014; Amidu et al., 2016).

$$\frac{TAC_{it}}{TA_{it-1}} = \alpha_0\left[\frac{1}{TA_{it-1}}\right] + \beta_1\left[\frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}}\right] + \beta_2\left[\frac{PPE_{it}}{TA_{it-1}}\right] + \varepsilon_{it} \qquad 3.2$$

Where TAC_{it} is the total accrual for firm i in year t; TA_{it-1} is total asset for firm i at the end of t-1; ΔREV_{it} is change in net sales for firm i between years t-1 and t; ΔREC_{it} is the change in receivables for firm i between years t-1 and t; PPE_{it} is the gross property plant and equipment for firm i in year t and ε_{it} is the error term. The normal accrual NAC_{it} is removed from equation (2) leaving the residual portion which is the discretionary accruals DCA_{it} (i.e. TAC_{it} - NAC_{it}). The discretionary accrual DAC_{it} for firm i at year t is the absolute value of the residual from the above estimation model. Earnings management is expected to relate positively to tax avoidance.

To measure earnings management for the financial firms, the study proxy for earnings management using the discretionary loan loss provision (DLLP). This was done in line with earlier empirical studies of Beaver & Engel (1996), Ahmed et al. (1998), Cornett et al. (2006), Adams, Carow, & Perry (2009) and Amidu & Ransome (2015). These studies have described how the loan loss allowance (reserve) and the loan loss provision have been used for earnings management by

the financial firms. However, one strand of literature uses the loan loss allowance out of which the non-discretionary component is estimated. The non-discretionary is then subtracted from the loan loss allowance to obtain the discretionary which is used to measure the earnings management. This strand of literature includes Beaver & Engel (1996) and Adams et al. (2009). The other strand of literature used the loan loss provision specifically the discretionary loan loss provision to proxy for earnings management (Ahmed et al., 1998; Cornett et al., 2006; Amidu & Ransome, 2015). In line with these authors, the current study uses the loan loss provision information to measure banks earnings management. This method uses a two-stage approach to estimate the discretionary loan loss provision. The first step estimates the normal loan loss provision by regressing the LLP on all the related normal LLP items. These items include net charge-off, non-performing loans and the total loans (Hasan & Wall, 2003). However, other variables such as growth in loans, change in loans outstanding and the loan market share of a bank are controlled for their influence on the provision. Year dummies are also controlled for the effect of technological changes (Amidu & Ransome, 2015; Adams et al., 2009). This estimated figure is the normal loan loss provision. According to the above authors; this non-discretionary loan loss provision is that portion of the loan loss provision that brings the loan loss allowance to an acceptable level.

The second step is to deduct the estimated LLP from the actual LLP to arrive at the discretionary LLP. Hence, the discretionary loan loss provision (DLLP) is the difference between the actual loan loss provision (LLP) and the non-discretionary loan loss provision (NLLP) which is presented as $DLLP = LLP - NLLP$. The literature stipulate that banks managers manipulate reported earnings through the discretionary loan loss provision in order to achieve an earnings target. The expected LLP is then estimated as;

$$LLP_{it} = \beta_0 + \beta_1 LLA_{it} + \beta_2 CHGOFF_{it} + \beta_3 GLOAN_{it} + \beta_4 \Delta LOAN_{it} + \beta_5 LOANS_{it} + \beta_6 DNPA_{it} + \beta_7 EBTP_{it} + \lambda_t YEARDUMMY_t + \varepsilon_{it} \quad \text{.....3.3}$$

Where LLP_{it} is the expected level loan loss provision based on a coefficient estimate from a sample of multinational banks in Ghana between 2008 and 2015. LLA_{it} is the beginning loan loss allowance of a bank i in period t, $CHGOFF_{it}$ is the net charge off which is the combined effect of charges and recoveries of bank i in period t, $GLOAN_{it}$ is the growth in loans of bank i in period t, $\Delta LOAN_{it}$ is the change in total loans outstanding of bank i in period t, $LOANS_{it}$ is the loan portfolio of bank i in period t, $DNPA_{it}$ is a dummy variable representing one if the value of non-performing loan is missing and zero otherwise, $EBTP_{it}$ is earnings before taxes and profit of bank i in period t and $YEARDUMMY_{it}$ is a year dummy taking care of technological changes.

3.8 Control Variables

The section outlines and explains the reasons for the selection of the control variables for tax avoidance. Additionally, the section specifies the likely signs for each control variable selected with the dependent variable (tax avoidance) in line with prior empirical studies and lastly discuss how each of the control variables is measured.

3.8.1 Firm Size

The first control variable is firm size (SIZE), measured as the natural logarithm of total assets. This has been found in the existing literature that larger firms are less aggressive in earnings manipulation as they face extensive scrutiny from investors and financial analyst (Zhou & Elder, 2002). Contrary, Lobo and ZHOU (2006) stated that larger firms have more attraction for earnings

management due to the complex nature of their operation making it difficult for tracking financial misstatement. Finally, Amidu et al. (2016) also argued that larger firms are associated with fewer earnings manipulation and avoidance of taxes because such firms are more subjected to regulatory/investor scrutiny. Hence, firm size is projected to be either positive or negatively related to tax avoidance. Margaret, Lynch, & Rego (2009) suggested that larger firms utilize tax planning to obtain economies of scale which helps them to retain resources and incentives to reduce their corporate taxes liability. Finally, Bernard et al. (2006) asserted that larger firms engage more in transfer pricing manipulation. Hence, firm size is expected to relate to transfer pricing manipulation positively.

3.8.2 Leverage

Leverage (LEV) is the second control variable which is measured as long-term debts over of total assets. The study controls this variable for its effect on the association between earnings management and tax avoidance. Rusmin (2010) stated that firms that are likely to violate their debt contract have more incentives to manipulate earnings and avoid taxes to increase their earnings. Also, Scott (2009) documented that managers manage earnings purposely to unveil the real firm performance so as to meet debt contract conditions and to avoid violating debt contract. Again, Amidu et al. (2016) argue that manipulative and avoidance activities are more frequent in firms that utilize debt financing. Therefore, leverage is predicted to be positively related to discretionary accruals and tax avoidance.

3.8.3 Firm Performance

The study also controls for firm performance (ROA), which is estimated as earnings before interest and taxes over total assets. Prior studies have shown that the discretionary portion of accrual relates well to earnings performance (Yang, Lai, & Tan, 2008; Dechow et al., 1995). Kothari, Leone, & Wasley (2001) also indicated that discretionary accrual is highly associated with firm performance. The study then expects that firms who are more conscious about earnings performance would avoid more taxes. Therefore, firm performance is estimated to associate positively with tax avoidance.

3.8.4 Growth Potential

This study again controls for firm's growth potential (GP). GP is measured as the difference between current year's and previous year's revenue over the previous year's revenue. Lai (2009) indicated that firms with increased growth opportunities have less incentive to report discretionary accruals especially when they experienced increased monitoring. Leventis & Dimitropoulos (2012) and Abdelsalam, Dimitropoulos, Elnahass, & Leventis (2016) asserted that Banks with increased growth opportunities report small positive income less frequently. Hence, the study expects that firms with growth potential will manipulate more of their profit to avoid more taxes contrary to firms with growth opportunities. Therefore, the study expects the coefficient on firm's growth potential to be positive.

3.8.5 Asset Tangibility

The tangibility of asset (TANG) is measured as the total value of property plant and equipment over the total assets. The study expects the coefficient of tangibility to be positive.

3.8.6 Liquidity

The study again controls for liquidity (LIQ). LIQ is measured as current assets over current liabilities. Liquidity is expected to relate to tax avoidance positively.

3.8.7 Age

The study finally controls for age (AGE). This variable is controlled to proxy for experience. This is measured as the difference between the year in which the firm commenced operation and the year under which the financial statement is considered. The study expects the age of a firm to relate positively with tax avoidance.

Table 3.2: Variable Definition and Measurement

Variable	Definition/ Measurement
CTA_{it}	The difference between statutory tax rate (STR) and effective tax rate (ETR). A positive difference amounts to tax savings (tax avoidance), and a negative difference implies additional tax cost.
TP_{it}	Transfer pricing index of the firm based on the sum of five different transfer pricing items divided by five
EM_{it}	Using discretionary accruals which are estimated as the difference between reported TAC_{it} and it NDA
$SIZE_{it}$	Natural logarithm of total assets
LEV_{it}	Long-term debt divided by total assets
ROA_{it}	Earnings before interest and taxes deflated by lagged total asset
GP_{it}	The ratio of market to book value of common equity to book value of equity
$TANG_{it}$	Total non-current assets over total assets
LIQ_{it}	Current assets over current liabilities
AGE_{it}	the difference between the year in which the firm commenced operation and the year under which the financial statement is considered
ε_{it}	Error term

3.9 Model Specification

The study seeks to empirically find out if transfer pricing abuses and earnings management have any impact on tax avoidance for a period from 2008 to 2015. The study, therefore, exploits the panel data techniques to provide insight into the effects or contributions if any of transfer pricing aggressiveness and earnings management on tax avoidance among the Ghanaian multinational firms. Panel data estimation appears to provide more convincing results than the classical time series and cross-sectional analyses since it exploits the advantages of time series and cross-sectional data and at same time corrects the weakness of the latter two estimation techniques mentioned. It also helps to control for omitted variables and firm-specific effects and also allows for both long and short run effects thereby overcoming the shortcomings of the cross-sectional and time series estimation technique (Stock & Watson, 2001).

The study in attaining its objective of investigating the impact of transfer pricing and earnings management on tax avoidance among the Ghanaian multinational firms uses a panel approach to establish the existence of this relationship. Firstly, the study analyses the relationship between transfer pricing and tax avoidance, it further examines the relationship between earnings management and tax avoidance, and finally, investigate the sensitivity of transfer pricing and earnings management on tax avoidance. The specific models are stated as:

$$CTA_{it} = \alpha_0 + \beta_1 TP_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 GP_{it} + \beta_6 TANG_{it} + \beta_7 LIQ_{it} + \beta_8 AGE_{it} + \varepsilon_{it} \quad \text{.....3.4}$$

$$CTA_{it} = \alpha_0 + \beta_1 EM_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 GP_{it} + \beta_6 TANG_{it} + \beta_7 LIQ_{it} + \beta_8 AGE_{it} + \varepsilon_{it} \quad \text{.....3.5}$$

$$CTA_{it} = \alpha_0 + \beta_1 TP_{it} + \beta_2 EM_{it} + \beta_3 (TP_{it} * EM) + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 GP_{it} + \beta_8 TANG_{it} + \beta_9 LIQ_{it} + \varepsilon_{it} \quad \text{.....3.6}$$

To ensure a normal distribution of the data employed in the model, the Shapiro Wilk test was conducted (Appendix 1). The result, therefore, reported an evidence of normal distribution of the data set. Also, the Wooldridge test for autocorrelation (Appendix 2) was conducted to confirm that the model was free from the first-order autocorrelation. Further analysis was performed to ensure robust coefficient. From the fixed effect regression model, the Wald test for group-wise heteroscedasticity was conducted to detect heteroscedasticity. With a null hypothesis of constant variance, the result (chi2 (11) =3324.60 with Pro>chi2 =0.0000 denoted a rejection of the null hypothesis of constant variance and conclude that heteroscedasticity exists in the model. The result of the heteroscedasticity is reported in (Appendix 4). The robust standard errors were carried out to correct the problem of heteroscedasticity in the model.

4.0 Empirical Estimation Technique

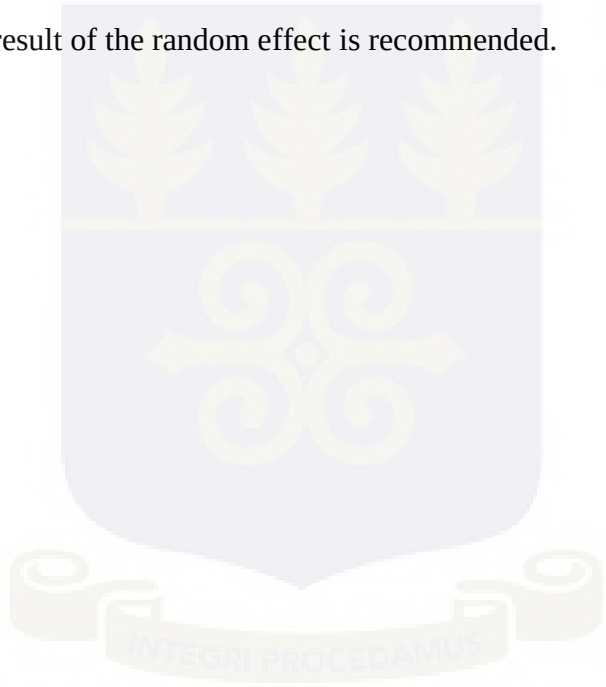
The use of the Ordinary Least Square (OLS) estimator is likely not deemed fit for the estimation of the parameters in our panel regression model. This is mainly because the assumptions of the OLS are violated given the data available for the study (Wooldridge, 2008). Also, OLS is employed when undertaking a cross-sectional study at a point in time or where the data is not enough or not available. Thus the data is not consistent and does not recognize time variant. The other reason for the use of other estimation techniques other than the Ordinary Least Squares is because tax avoidance and earnings management are seen as endogenous to the model (Alhassan, Kyereboah-coleman, & Andoh, 2014; Berger, 1995) generating biased estimates if the OLS is employed.

Arellano and Bover (1995) argue that a regressor is endogenous when it is not orthogonal to the error term. That is if it does not satisfy the condition of orthogonality. Hence, given an intercept in the equation, endogeneity arises if the regressors are correlated with the error term. From the above argument, the normal assumptions of the Ordinary Least Square Estimator are violated. In estimating this model by OLS, the normal conditions are required to achieve unbiasedness, consistency or efficiency estimators. The key requirements for the OLS estimator are that the average of the error term should be equal to zero and uncorrelated with the repressors. Also, the data must suit the assumption of homoscedasticity. With tax avoidance and earnings management being endogenous, the basic OLS estimations will produce biased estimations, therefore the use of an alternative method.

Therefore, the estimation strategy used to solve this endogeneity problem is the methodology proposed by Blundell, & Bond (2014) and Alvarez & Arellano (2003) in estimating systems of equation in first difference and levels. This proposed methodology is the GMM estimators or the dynamic models. However, the study could not employ the Orthogonal GMM technique or the dynamic models due to the nature of the data available. Hence, the study resorted to using the Generalized Least Squares approach specifically the panel estimation technique. The panel estimation approach was employed due to the nature of the data such that the data is across time and entity and also the advantages that come with the use of the panel estimation technique (Wooldridge, 2008). Panel data estimation appears to provide more convincing results than the classical time series and cross-sectional analyses since it exploits the advantages of time series and cross-sectional data and at same time corrects the weakness of the latter two estimation techniques mentioned. It also helps to control for omitted variables and firm-specific effects and also allows

for both long and short run effects thereby overcoming the shortcomings of the cross-sectional and time series estimation technique (Stock & Watson, 2001).

In deciding whether the fixed effects model or random effects model is more suitable for the data, the Hausman's specification test was conducted. The null hypothesis indicates that the random model is suitable and the alternative hypothesis stated that the fixed effect model is appropriate. As depicted by the Hausman's test (Appendix 3) where (chi2 (9) =5.02 with p-value=0.8325), the null hypothesis of the test of no significant difference between the coefficients of the two models is supported. Hence, the result of the random effect is recommended.



CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION OF RESULT

4.0 Introduction

This chapter presents the data analysis, results, and findings of the study. The descriptive statistics and correlation matrix have been discussed in chapter three. Finally, this chapter presents and discusses the regression result and findings.

4.1 Descriptive Statistics

The table below presents the summary statistics on the variables used to attain the objectives of the study covering periods between 2008 and 2015 in Ghana.

Table 4.1a: Variables Summary Statistics (Non-Financial Multinational Firms)

Variable	Obs	Mean	Std. Dev.	Min	Max
CTA	82	0.0595	0.3317	-2.1386	0.7753
TP	83	0.5349	0.1254	0.4000	0.8000
EM	75	0.2821	0.1586	0.0422	0.8917
ROA	87	0.1119	0.1169	-0.1182	0.3947
LEV	82	0.1483	0.2115	0.0026	0.9159
TANG	93	0.4554	0.2502	0.0615	0.9657
GP	74	0.1676	0.2239	-0.5122	0.7770
LIQ	93	0.2845	0.6188	-2.6485	0.9572
SIZE	93	119.8229	191.1709	0.0703	993.6
AGE	117	49.0769	24.2182	5	90

Notes: CTA is corporate tax avoidance; TP is transfer pricing; EM is earnings management; ROA is return on assets; LEV is leverage; TANG is asset tangibility; GP is growth potential; LIQ is liquidity; SIZE is firm size, and AGE is firm age

Table 4.1a above presents the summarized details of the variables employed in this study non-financial multinational firms in Ghana from 2008 to 2015 by reporting the mean, maximum, minimum and standard deviation. Corporate tax avoidance (CTA) was used as an outcome variable. Hence, on the average 5.95% of non-financial MN firms in Ghana engage in tax

avoidance. It is observed that some of the firms recorded minimum and maximum of -213.86% and 77.53% respectively. This is an indication that avoidance varies quite greatly across the sampled non-financial MN firms. Transfer pricing is on the average 53.49% which the firm with the maximum transfer pricing recorded 80% manipulation of transfer prices for tax avoidance. Again, earnings management measured as the discretionary component of total accrual is 28.21% on the average. However, it is evident that a non-financial MN firm in a particular year recorded a maximum earnings management of 89.17% implying that such firm is more aggressive in earnings manipulation. Return on Asset (ROA) which is a measure of a firms' profit potentials is averagely 11.19% while some banks recorded minimum and maximum return on asset of -11.82% and 39.47% respectively. This is an indication that profitability varies quite moderately across the non-financial MN firms. Leverage is about 15% on the average. More so, asset tangibility which measures the use of property plant and equipment is averagely 45.54%. This implies that non-financial MN firms in Ghana on the average employ about 45.54% of their total assets as property plant and equipment. It is also observed that a firm in a particular year had its property plant and equipment peaking to 91% of total asset.

Sale growth is on the average 16.76% indicating that non-financial MN firms in Ghana averagely increases sales by 16.76%. This is an indication of poor sales growth among the sample firms. However, it is seen that a particular firm in one year recorded a maximum value of 77.7%. Liquidity is on the average 28.45% implying that the firms in this category on the average can convert 28.45% current asset into cash when the need arises. A standard deviation of 61.88%, minimum of -264.85% and a maximum of 95.72% indicate a higher level of disparity among the firms level of liquidity. Firm size which measures the amount of total asset a firm has is averagely 120 million. A standard deviation of 191 million reveals a higher variation among the sample firms

concerning their total assets. Firm age is on the average 49 years. A standard deviation of 24.2182 indicates a high disparity in the sizes of the sampled firms. The study employed the Shapiro-Wilk (SW) Test (Appendix 1) to check the distribution of the variables around their mean. The SW test reported that the variables were normally distributed around their mean.

Table 4.1b: Variables Summary Statistics (Financial Multinational Firms)

Variable	Obs	Mean	Std. Dev.	Min	Max
CTA	137	0.0873	0.1123	0.0005	0.6527
TP	154	0.4753	0.1411	0.2000	0.8000
EM	94	0.0605	0.1084	0.0009	0.9182
ROA	141	0.0380	0.1348	-0.5954	0.7089
LEV	139	0.4855	0.2516	0.0008	0.9285
TANG	145	0.0540	0.0679	0.0007	0.4759
GP	101	0.2703	0.3586	-0.9613	0.9366
LIQ	140	0.5781	0.0829	0.1583	0.6493
SIZE	146	498.9177	756.1859	0.6349	4113.812
AGE	101	27.07921	35.04588	1	119

Notes: CTA is corporate tax avoidance; TP is transfer pricing; EM is earnings management; ROA is return on assets; LEV is leverage; TANG is asset tangibility; GP is growth potential; LIQ is liquidity; SIZE is firm size, and AGE is firm age

Table 4.1b presents the summary statistics for all the variables used in this study for the multinational financial firms. The summary statistics cover mean, standard deviation, minimum and maximum values of all the variables. From the summary statistics table, corporate tax avoidance is on the average 8.73%. However, a maximum of 62.7% indicates that the samples multinational (MN) financial firms are highly involved in avoidance activities. Transfer pricing is on the 47.53% implying that almost 48% of the firms in this group engage in transfer pricing abuses. It is also observed that a firm in a year recorded a maximum value of 80% which depicts that some of the firms in this group engage massively in transfer pricing manipulation. Earnings management which measures earnings manipulation is averagely 6.05%%. A maximum value of 92% denotes aggressive earnings manipulation of some firms in this group. Return on Asset (ROA)

which is a measure of banks'' profit potentials is averagely 3.8% while some banks recorded minimum and maximum return on asset of -59.54% and 70.89% respectively. This is an indication that profitability varies quite greatly across the multinational financial firms.

Leverage is on the average 48.55% which implies that 49% of the sample firm employs more debt to equity in their capital structure. Asset tangibility which measures the usage of property plant and equipment is averagely 5.4%%. This is an indication that financial firms by nature are more liquid and hence employ less of property plant and equipment. Furthermore, Sale growth is on the average 27.03% indicating that multinational financial firms in Ghana averagely increases sales by 27.03% which is an indication of poor performance. However, it is interesting to observe that a particular firm in a year increased its sales by 93.66%. Liquidity is on the average 57.81% which implies that 57.81% of the sample firm has enough current asset that could pay their current liabilities when due. Firm size on the average is 499 million. A standard deviation of 756 million indicates a higher variation of the total asset held by each firm in the sample. Finally, firm age is averagely 27 years.

4.2 Pearson Correlation Analysis

This section reports the correlation matrix among the various variables that can explain the variation in corporate tax avoidance from literature. The table mainly exhibits the Pearson's correlation matrix which serves as a test for the collinearity of each variable compared with the other variables needed to achieve the set objectives. In line with Kennedy (2008), the study set a threshold of 0.8 for the Pearson's correlation to be considered as the existence of high collinearity between a variable and other variables. Hence, the results presented in Table 4.2 show no evidence of multicollinearity. The variance inflation factor (VIF) scores for each variable for both financial

and non-financial firms are all below 10. This suggests negligible or no significant effect of multicollinearity problem among the variables on the results. The magnitude of the relationship is determined by the absolute value while the sign indicates the direction of the relationship.

Table 4.2a: Correlation Matrix (Non-Financial Multinational Firms)

	CTA	TP	EM	ROA	LEV	TANG	GP	LIQ1	SIZE	AGE
CTA	1.0000									
TP	-0.0328	1.0000								
EM	0.1742	-0.2367	1.0000							
ROA	-0.0765	0.3068	-0.0570	1.0000						
LEV	0.1151	-0.1667	0.3355	-0.3652	1.0000					
TANG	0.2499	-0.2530	0.4855	-0.1285	0.3498	1.0000				
GP	0.2804	0.1593	-0.0429	0.2176	-0.0669	-0.1498	1.0000			
LIQ	-0.0381	0.0444	-0.4997	0.1061	-0.4263	-0.4456	0.0994	1.0000		
SIZE	0.1029	-0.1252	0.0408	0.1126	0.3536	0.1021	0.0501	-0.1255	1.0000	
AGE	-0.1059	-0.0905	0.1671	-0.1208	0.4942	0.2160	0.2160	-0.1692	0.1546	1.0000

Notes: TP is transfer pricing; ROA is return on assets; LEV is leverage TANG is asset tangibility; LIQ is liquidity; SIZE is firm size EM is earnings management; GP is growth potential and AGE is firm age

Table 4.2b: Correlation Matrix (Financial Multinational Firms)

	CTA	TP	EM	ROA	LEV	TANG	GP	LIQ	SIZE	AGE
CTA	1.0000									
TP	0.0614	1.0000								
EM	0.0003	-0.0476	1.0000							
ROA	-0.3019	0.2404	0.0262	1.0000						
LEV	0.0430	-0.0160	-0.0077	-0.1158	1.0000					
TANG	-0.0276	0.0437	-0.0253	-0.2878	-0.0277	1.0000				
GP	-0.1505	-0.0604	0.1349	0.0438	0.3612	-0.0103	1.0000			
LIQ	-0.2582	-0.0675	0.0035	0.1990	-0.0056	-0.6881	0.0507	1.0000		
SIZE	-0.0030	0.0059	0.1304	0.0431	0.0530	-0.2156	0.2400	0.0691	1.0000	
AGE	0.1241	0.1633	-0.0515	0.0556	-0.0678	-0.1363	-0.0883	-0.0673	0.4515	1.0000

Notes: TP is transfer pricing; ROA is return on assets; LEV is leverage; TANG is asset tangibility; LIQ is liquidity, and SIZE is firm size; EM is earnings management, GP is growth potential and AGE is firm age.

The correlation results show that EM is as expected positively correlated with tax avoidance. This suggests that more earnings manipulation results in more avoidance activities. This result is not different from that of previous studies (Desai & Dharmapala, 2009; Amidu et al., 2016). However, the other interest variable TP, correlate negatively with tax avoidance which contradicts the findings of earlier studies. The control variables are also positively correlated with the dependent variable except for ROA, LIQ, and AGE. The positive correlation between LEV, TANG, GP, and CTA reveal that highly leverage non-financial firms with more physical assets and have growth potentials are highly involved in avoidance activities. ROA, LIQ, and AGE correlate negatively with tax avoidance implying that profitable firms with more years of existence and are highly liquid have less incentive to engage in avoidance activities. Concerning the financial firms, the dependent variable (CTA) is positively correlated with the key variables of interest (TP and EM).This result is at par with the result of other studies (Dhaliwal, Gleason, & Mills, 2004; Taylor & Richardson 2012) and consistent with the view that transfer pricing manipulation and earnings manipulation facilitate tax avoidance. For the control variables, LEV and AGE correlate positively with tax avoidance which suggests that highly leveraged financial firms with more years of existence engage more in tax avoidance. ROA, TANG, and GP had a negative correlation with tax avoidance which implies that highly profitable financial firms with more physical assets and have the potential to grow are less attractive to avoidance activities. Finally, LIQ and SIZE correlate negatively with tax avoidance suggesting that financial firms with more assets and are highly liquid have less scope to avoid payment of taxes.

4.3 Data Analysis and Presentation

This section presents the generated results from the methods and techniques used. The results are presented and discussed in relation to earlier studies and theory. Again, the section presents a few controls to ensure robustness of estimates derived from the data.

4.3.1 Impact of Transfer Pricing on Tax Avoidance

This section presents the regression estimation result on the impact of transfer pricing on tax avoidance. The study employed tax avoidance (the difference between statutory tax rate and effective tax rate) as dependent variable explained by the independent and the control variables. The independent variable is transfer pricing (TP) and the control variables include performance (ROA), leverage (LEV), asset tangibility (TANG), growth potential (GP), liquidity (LIQ) and natural log of total assets (SIZE). Notwithstanding, only the variable of interest and other significant variables are discussed.

Table 4.3 Transfer Pricing on Tax Avoidance

Sample	Model 1	Model 2	Model 3
Constant	-0.3336	-0.0297	-0.2063
	(0.2719)	(0.5209)	(0.6392)
TP	0.0374	0.0738	0.04329
	(0.0423)	(0.0752)	(0.1389)
ROA	-0.1403	0.0016	0.0014
	(0.3456)	(0.0027)	(0.0035)
TANG	0.3531**	-0.7426**	0.6154***
	(0.1303)	(0.0268)	(0.0731)
LIQ	-0.2345	0.0000	0.0000***
	(0.0175)	(0.0000)	(0.0000)
SIZE	0.0236	0.1110	-0.0043
	(0.0292)	(0.0387)	(0.0777)
R-Square	0.0741	0.0038	0.0044
Pro>F	0.000	0.000	0.000
No. of Obs.	81	136	217

Notes: Model 1 represent non-financial firms; Model 2 represent financial firms and Model 3 represent the combined of the two. Standard Errors are in parenthesis; ***, **, and * represent 1%, 5%, and 10% significance levels respectively; TP is transfer pricing; ROA is return on assets; TANG is asset tangibility; LIQ is liquidity; and SIZE is firm size.

From the results above, a coefficient of 0.037 for non-financial firms and 0.074 for financial firms indicate that financial firms avoid more taxes through the manipulation of transfer prices than the non-financial firms. The result also shows that transfer pricing (TP) relate positively with tax avoidance for all sample categories. This implies that one unit increase in transfer pricing manipulation will lead to 0.0454 unit increase in tax avoidance. This result means that when MNCs increase their transfer pricing manipulation by 100%, MNCs will end up avoiding taxes by 4.54%. This suggests that MNCs avoid taxes through the manipulation of transfer prices. This finding is consistent with existing empirical studies (Bartelsman & Beetsma, 2003; Bernard, Jensen, & Scott,

2006: Sikka & Willmott, 2010; Taylor & Richardson, 2012; Jansky, 2013) which found that transfer pricing manipulation facilitates tax avoidance.

For the control variables, the regression result shows a direct relationship between asset tangibility (TANG) and tax avoidance (CTA). More so, the result indicated that both non-financial and financial firms avoid taxes through the use of property plant and equipment. For the entire sample the result depicts that a unit increase in asset tangibility leads to 0.6154 units increase in tax avoidance which implies that as MNCs use more of property plant and equipment (PPE), they end up charging more depreciation which is deducted before the taxable income on which the tax rate is applied is obtained. This means that the use of PPE helps MNCs to avoid the payment of taxes. This is because after the depreciation is deducted the taxable profit become small. Hence, when the tax rate is applied the tax liability generated become small implying that majority of the tax liability has been taking out as depreciation. This finding is interesting as asset tangibility is statistically significant at 1% and 5% across all the sample categories. It is also observed that although, liquidity was not statistically significant for both non-financial and financial companies, yet it was statistically significant for the entire sample. The result shows that non-financial firms that are more liquid avoid fewer taxes. Moreover, it is also depicted by the result that financial firms that are more liquid avoid more taxes. Additionally, the result indicated that ROA relates positively with tax avoidance for non-financial companies and the entire sample. This implies that financial companies that are more profitable avoid more taxes.

Finally, the result recorded a positive coefficient for both the financials and the non-financial firms. This could intuitively explain to mean that as firms increase in size, they become more conversant with avoidance strategies and techniques and can employ them to avoid more taxes. The positive

relationship also supports the other strand of literature such as Bernard et al. (2006) that larger firms avoid more taxes due to the complex nature of transactions making it difficult to identify financial misstatement and tax-related tax fraudulent activities of managers.

SIZE recorded a negative coefficient for the entire sample whiles a positive coefficient was recorded for both financial and non-financial companies. The negative coefficient depicts that a unit increase in size leads to 0.0043 unit decrease in tax avoidance which implies that as firms increase in size, they become less attractive to avoidance activities. This finding is statistically insignificant. However, the negative coefficient indicates that larger firms engage less in tax avoidance. This finding is consistent with the prior research of Zhou & Elder (2002), Yang, Lai, & Tan (2008) and Yorke et al. (2016) that larger firms are subjected to more scrutiny by investors and analyst and are therefore less likely to engage in earnings management and to avoid taxes.

4.3.2 Impact of Earnings Management on Tax Avoidance

This section shows the regression estimate results on the impact of earnings management on tax avoidance for only non-financial firms. The study employed tax avoidance (the difference between statutory tax rate and effective tax rate) as dependent variable explained by an independent and other control variables. The independent variable is earnings management (EM), and the control variables include return on asset (ROA), leverage, asset tangibility (TANG), growth potential (GP), liquidity (LIQ), natural log of total assets (SIZE) and firm age (AGE). However, only the variable of interest and other significant variables are discussed.

Table 4.4 Earnings Management on Tax Avoidance

Sample	Model 1	Model 2
Constant	-0.0159	2.0911***
	(0.2893)	(0.3998)
EM	0.6734	0.0800**
	(0.8508)	(0.0341)
ROA	-0.3143	-1.7607***
	(0.3247)	(0.4741)
LEV	-0.3800***	-0.0608
	(0.1339)	(0.0890)
TANG	0.8468*	-2.3863***
	(0.4671)	(0.5596)
GP	0.6039***	-0.0065
	(0.2191)	(0.0416)
LIQ	-0.2904	-1.4867***
	(0.4406)	(0.3319)
SIZE	-0.0002	0.0015
	(0.0282)	(0.0350)
AGE	1.0680**	0.0004**
	(0.4652)	(0.0003)
R-Square	0.1819	0.5898
Pro>F	0.0000	0.0000
No. of Obs.	71	61

Notes: Model 1 represent non-financial firms and Model 2 represent financial firms. Standard Errors are in parenthesis; ***, **, and * represent 1%, 5%, and 10% significance levels respectively; EM is earnings management; ROA is return on assets; LEV is leverage; TANG is asset tangibility; GP is growth potential; LIQ is liquidity; SIZE is firm size; and AGE is firm age

Table 4.6 present the regression result on the impact of earnings management on tax avoidance. A p-value of 0.0000 for both firm categories suggests that the model fits the data. The above result shows that for the most of the model's explanatory is driven by LEV, TANG, GP, and AGE for the non-financial firm's whiles for the financial firms, the model's explanatory is driven by EM, ROA, TANG, LIQ, AGE and the constant. The goodness of fit test statistics as presented by the chi-square of 133.59 and 595.95 shows the overall significance of the joint explanatory powers of all independent variables.

From the regression result, earnings management (EM) was positively related to tax avoidance (CTA) for both financial and non-financial firms. The positive relationship depicts that the firms avoid taxes through the manipulation of earnings. This finding confirms existing studies of (Dhaliwal, Gleason, & Mills, 2004; Desai & Dharmapala, 2009; Amidu et al., 2016; Yorke, Amidu, & Agyemin-boateng, 2016). The findings also attest to the perception that avoidance practices provide enough opportunity for self-seeking managers to engage in manipulative behaviour. More so, the finding supports the assumption underpinning the agency theory that individuals are self-seeking actors acting to maximize their personal economic gains. The agency relationship between owners and managers requires that the latter take decisions that maximize the interest of the former. However, the conflict of interest between shareholders and managers induces managers such that those delegated to take tax decisions take decisions that reflect their private ambitions to the detriment of shareholders.

However, this relationship is highly significant for the financial firms under 1% significance level with a coefficient of 0.08 as against a coefficient of 0.67 for the non-financial firms. This implies that non-financial firms engage more in earnings manipulation than the financial firms.

With regards to the control variables, return on asset (ROA) is negatively related to tax avoidance for both firms implying that non-financial firms and financial firms with higher profitability avoid less taxes. Notwithstanding, the relationship is statistically significant for only financial firms under 1% significance level. With a coefficient of -0.3143 and -1.7607, the finding reveals that highly profitable non-financial firms are less attractive to tax avoidance activities than profitable financial firms. This result contradicts the findings of prior research of Dechow et al. (1995), Kothari, Leone, & Wasley (2001) and Yang, Lai, & Tan, 2008 that firms with higher performance

manipulate more of their earnings to avoid taxes. Hence, the above authors indicated that discretionary accrual relates well to earnings management. Notwithstanding, the above studies have found a positive relationship between ROA and CTA with the focus on only non-financial firms. Therefore, the relationship between ROA and CTA for the non-financial firms contract the above findings and at the same time statistically insignificant. For the financial firms, the relationship is negatively and statistically significant which confirms the findings that profitable banks are more in the public eye and are also more scrutinized by analyst and hence are less likely to engage in avoidance activities.

From the regression result, LEV shows a negative statistically significant relationship with tax avoidance under 1% significance level for non-financial firms. The relationship was also negative for financial firms but statistically insignificant. This result contradicts the findings of previous studies that highly leverage firms manipulate more of their earnings to report higher profit to avoid violating lending contract (Scott, 2009; Rusmin, 2010 and Amidu et al., 2016). The significant negative relationship for the non-financials firms could intuitively explain to mean that the firms could be avoiding taxes alright but the medium for their avoidance is not debt financing.

Asset tangibility (TANG) from the regression estimate is positive and significantly associated with tax avoidance under 10% significance level for the non-financial firms. TANG, however, is negative and highly significant with tax avoidance for the financial firms. Intuitively, the significant positive relationship for the non-financials could explain to mean that companies that use more non-current assets are expected to avoid more taxes. This is because the depreciation charge on the non-current asset is deducted before the taxable profit is arrived at. This, therefore, means that firms with the intention of avoiding taxes use more of the non-current asset, charge

higher depreciation which in turn reduces the taxable profit and finally pay fewer taxes. However, this finding for the non-financial firms contradicts the findings of Amidu, Yorke, et al. (2016) whiles that of the financial firms confirms their findings that firms with large asset are not aggressive in earnings manipulation and avoidance activities.

Again, the result reveals that growth potential (GP) is positively and significantly related to tax avoidance under 1% significance level for the non-financial firm's whiles for the financials, the relationship is insignificantly negative. In line with the study expectation, the negative relationship attests to earlier findings that firms with increased growth opportunities are more likely to report less discretionary accruals when they experience increased monitoring Hence, such monitoring provide them with less incentive to avoid taxes. (Cornett et al., 2006) ; Leventis and Dimitropoulos, 2012). Additionally, the result depicts a negative relationship between liquidity (LIQ) and tax avoidance (CTA) for both firm categories. This relationship is statistically significant at 1% significance level for the financial firms. In line with expectation, the significant negative relationship confirms that banks by nature of operation are highly liquid and the intention is not for avoidance purposes.

From the regression result, SIZE shows a negative relationship with tax avoidance for non-financial firms albeit statistically insignificant. This negative relationship supports earlier studies of Zhou & Elder, (2002), Yang, Lai, & Tan, (2008) and Yorke et al. (2016) that large firms are less attractive to manipulate behaviour that results in avoidance because they are frequently scrutinized by investors and financial analyst.

Finally, AGE is positively and significantly associated with tax avoidance for both firm categories. The relationship is statistically significant for both firm groups at 5% significance level.

Intuitively, it is expected that as firms operate for more years, they become abreast and conversant with earnings management strategies and techniques and can employ them efficiently to avoid more taxes. This explains the direct relationship. The coefficient of 1.0680 and 0.0003 indicate that non-financial firms that have existed for more years avoid more taxes than the comparative aged financial firms.

4.3.3 The Sensitivity of Transfer Pricing and Earnings Management on Tax Avoidance

The result on the third objective, establishing the impact of the interaction between transfer pricing and earnings management on tax avoidance for only non-financial firms is presented in this section. The study employed tax avoidance (the difference between statutory tax rate and effective tax rate) as dependent variable explained by the independents and the control variables. The independent variables includes the interaction term between transfer pricing and earnings management (TP*EM), transfer pricing (TP) and earnings management (EM) whiles the control variables comprises return on asset (ROA), leverage (LEV), asset tangibility (TANG), growth potential (GP), liquidity (LIQ) and natural log of total assets (SIZE). The section also discusses only the variables of interest and other significant variables.

Table 4.5 Sensitivity of Transfer Pricing and Earnings Management on Tax Avoidance

Sample	Model 1	Model 2
Constant	-0.8662	0.8299*
	(0.6216)	(0.6631)
TP	0.2004*	0.1454***
	(0.1069)	(0.0425)
ROA	-0.2278	-2.1413***
	(0.4153)	(0.3939)
EM	0.8514	0.4077***
	(0.6081)	(0.1295)
TP*EM	-0.6551*	-1.6497***
	(0.4332)	(0.5616)
LEV	-0.3115**	0.1002
	(0.1589)	(0.0842)
TANG	0.8956**	-1.3941*
	(0.4252)	(0.8051)
GP	0.5830***	-0.0008
	(0.2287)	(0.0351)
LIQ	-0.3158	-0.6558
	(0.4601)	(0.5581)
SIZE	0.0238	0.0305
	(0.0393)	(0.0357)
AGE	0.0004	0.0006*
	(0.0017)	(0.0004)
R-Square	0.2012	0.6914
Pro>F	0.0000	0.0000
No. of Obs.	71	61

Notes: Model 1 represent non-financial firms and Model 2 represent financial firms. Standard Errors are in parenthesis; ***, **, and * represent 1%, 5%, and 10% significance levels respectively; EM is earnings management; ROA is return on assets; TP is transfer pricing; TP*EM is the interaction between transfer pricing and earnings management; LEV is leverage; TANG is asset tangibility; GP is growth potential; LIQ is liquidity; and SIZE is firm size.

Table 4.5 above project the regression estimation result on the sensitivity of transfer pricing and earnings management on tax avoidance. The result in this table suggests that EM is positively and insignificantly related to tax avoidance for non-financial firms with the introduction of the interactive term of transfer pricing and earnings management (TP*EM). This result does not differ from the result in table 4.4. This means that the interaction of TP and EM does not influence the

direction of the relationship between earnings management and tax avoidance for this firm category. However, the coefficient of EM (0.8515) with the introduction of the interactive term is higher than the coefficient of EM (0.6734) in table 4.4 without the interactive term. This finding suggests that though the moderator variable does not change the direction of the relationship between EM and CTA, its presence increases the level of earnings manipulation for tax avoidance. The positive relationship denotes that as more earnings are manipulated, all things being equal, more taxes are avoided. More so the result indicates that MN non-financial firms avoid taxes through the manipulation of reported earnings. These findings attest to earlier empirical findings of Yang et al. (2008), Marques, Lima, & Craig (2011) and Yorke et al. (2016) that firms avoid taxes through the manipulation of earnings. Thus, the desire to avoid taxes induces managers to manipulate earnings. The link between earnings management and tax avoidance has been found to be positively related (Desai & Dharmapala, 2009; Amidu, Yorke, et al., 2016; Amidu, Kwakye & Yorke, 2016). Notwithstanding, the interaction term TP*EM is negatively and significantly related to tax avoidance at 10% significance level.

Furthermore, this relationship is positive and significant for the financial firms which do not also differs from table 4.4. The differences are seen in the significance level. Thus, in table 4.4 without the interactive term, a significant level of 5% was recorded while table 4.5 recorded a significant level of 1% with the introduction of the interactive term. Similar to the result of the non-financial firms, the relationship between EM and CTA for the financial MN firms remain positive and significant with the introduction of the interactive term. Though the moderator variable did not change the direction of the relationship, a coefficient of 0.0800 for EM in table 4.4 without the interactive term is lower as compared to the coefficient of 0.4077 EM in table 4.5 with the interactive term. This indicates that though the interactive term does not change the direction of

the relationship, however, its existence causes financial firms to engage in aggressive earnings management which leads to avoidance of taxes. The findings for both firm categories simply mean that the sensitivity of TP and EM induces both firm groups to avoid more taxes. The interactive term was negative and significantly related to tax avoidance.

With regards to transfer pricing (TP), the result shows a positive albeit insignificant relationship with tax avoidance for both firm categories in table 4.3. Again, the relationship remained positive but became significant for both firm groups with the introduction of the interactive term TP*EM in table 4.5. Though the interactive term does not change the direction of the relationship, it makes it statistically significant. This statistical significance reveals the extent to which the interactive term strengthens the relationship between TP and CTA. The TP coefficient of 0.0374 in table 4.3 without the interactive term and 0.2004 in table 4.5 with the interactive term for the non-financial firms and the TP coefficient of 0.0738 in table 4.3 without the interactive term and 0.1454 in table 4.5 with the interactive term for the financial MN firms, indicate that both firm groups avoid more taxes through the manipulation of their transfer prices with the existence of the interactive term. Furthermore, the result suggests that both multinational non-financial and financial firms avoid more taxes through the manipulation of reported earnings and transfer prices.

The significant positive relationship between TP and CTA attest to the findings of existing empirical studies of Bartelsman & Beetsma (2003), Sikka & Willmott (2010) and Taylor & Richardson (2012). The above studies explained this finding to mean that MNCs avoid taxes through the manipulation of their transfer prices. Thus when a good or a service is being sold or purchased to a related party, the price is either under-valued or over-valued based on the jurisdiction of the related party. This manipulation helps MNCs to shift taxable profit from high

tax jurisdictions to low tax jurisdiction to reduce their tax liabilities. This according to Bartelsman & Beetsma (2003); Borkowski (2010); Muhammadi & Ahmed (2016) and Olibe, Rezaee, & Olibe (2011) is done to achieve the goal of global profit maximization and tax minimization.

With the introduction of the interactive term, both relationships which were not significant became significant. However, the interactive term itself is negative. These findings indicate that the two independent variables can comfortably be used in the same model. It further depicts that the two independent variables are a separate determinant of tax avoidance. This is evidenced by the negative coefficient recorded by the interaction term. Thus, if the interaction term had recorded a positive coefficient, it would have meant that transfer pricing and earnings management tell the same story, and for that matter one has to be dropped from the model, but in this case where the interactive term is negative it implies that the two independent variables are not perfectly correlated and are independent such that each of them can explain a variation in the dependent variable. Again, the finding denotes that transfer pricing does not override on earnings management and vice versa. They are independent and can explain their effect on tax avoidance. These findings contribute to knowledge and add to literature another determinant of international tax avoidance which is earnings management. From the international tax avoidance literature, mechanisms such as transfer pricing, profit shifting, thin capitalization, tax haven utilization and the financing structure of affiliate have been identified as a determinant of international tax avoidance.

Interestingly, the interactive term is negative and highly significant for both financial and non-financial MN firms. For non-financial, it was significant at 10% and 1% for the financial MN firms. Mathematically, if a positive variable interacts with another positive variable, the result is positive. Contrary, the interaction between two positive variables in this study yielded a negative

result. Intuitively, the negative coefficient for the interaction term means that the effect of the combined action of the two predictors is less than the sum of the individual effect. The finding statistically means that the relationship between one of the predictors and the dependent variable decreases if the other predictor increases. This implies that if transfer pricing manipulation increases, tax avoidance increases too, but this might only be the case when earnings management has a low value. Additionally, if earnings management increases, the association between transfer pricing and tax avoidance decreases. This finding intuitively means that firms can avoid taxes through either the manipulation of earnings or transfer pricing. Notwithstanding, the findings also indicate that in an attempt to avoid taxes, both strategies can be employed, however, when both strategies are employed a firm cannot operate both on an equal basis and as such a firm cannot employ a single strategy at 100%. Hence, it means that at any point in time, one of the strategies could be used more than the other and when one strategy is used more than the other, the effect of the other strategy on tax avoidance reduces. Thus when combined, the firm does not get the opportunity to utilize one strategy fully and at the same time unable to employ both strategies equally. Therefore, the combined action of the two independent variables will always be less than the sum of the individual effects.

Contrary to the concept of synergy as reported by Gupta & Ross (2001), the value and performance of two companies' combined are greater than the sum of the separate individual part. In this case, it is seen that when the firms come together, they get access to some benefits such as technological expert, financial benefits and operational benefits which the firms individually do not have. Hence, because of the additional benefits obtained, the combined result of the two is always greater than the result of the sum of the individual part. Drawing inference from this concept to the study findings, it is seen that when the strategies are put together, they lose even their strength of working

fully and as such there is no additional benefit too when putting together. Hence, their combined effect will always be less than the sum of the individual part, contrary to the concept of synergy as discussed by earlier studies (Gupta & Ross, 2001; Benecke, Schurink, & Roodt, 2007).

To add to the above, a TP coefficient of 0.2004 for the non-financial firms and a coefficient of 0.1454 for the financial MN firms indicate that non-financial MN firms manipulate their transfer prices more than the financial MN firms. More so, a coefficient of 0.8514 for EM for the non-financial MN firms to a coefficient of 0.4077 for the financial MN firms also depicts that the non-financial firms engage in more manipulative activities than the financial firms. These findings could be attributed to the fact that banks are in general more regulated and more closely monitored institutions by regulators and hence, have less incentive to engage in manipulative activities.

Also, for the control variables, ROA is negatively related to tax avoidance for both firm groups. However, for the financial MN firms, the relationship is statistically significant at 1% significant level. This result suggests that profitable banks are less attractive to tax avoidance because they experience increased monitoring from regulators and analyst. LEV is inversely and significantly related to tax avoidance for non-financial MN firms. This contradicts the findings of existing literature that more leverage firms avoid more taxes (Scott, 2009: Rusmin, 2010). LEV show a positive relationship with tax avoidance for the financial multinationals which is in accordance with earlier empirical findings. This is not statistically significant.

Again, the findings depict that TANG is significant and associate positively with tax avoidance for the MN non-financial firms indicating that these firms avoid more taxes through the use of property plant and equipment with it related depreciation which takes the majority of the profit after tax to the expense account as depreciation. For the financial MN, TANG is positive in line

with the study expectation and statistically significant. Additionally, the results project that GP is positively related to tax avoidance for non-financial MN firms. Finally, AGE is positive and significant for both firm groups.

4.4 Conclusion

The chapter discussed the impact of transfer pricing and earnings management on tax avoidance. It also discussed the sensitivity of transfer pricing and earnings management on tax avoidance. The study employed the panel estimation techniques. The normality of variables and residuals, autocorrelation and heteroscedasticity were all tested. The findings in the chapter show that transfer pricing increases tax avoidance and earnings management also increases tax avoidance. It was also observed that though TP and EM were both positive and insignificant for both firm categories, the two variables became significant with the introduction of the interactive term TP*EM in the model. This means that firms that undertake earnings management alone cannot be able to avoid taxes and firms that do transfer pricing only cannot be able to avoid taxes as well. This implies that the two variables are complementary indicating that in my context of studies, MNCs are able to avoid taxes when the two variables are employed at the time. The interactive term is negative supporting the assumption that when two positive variables interact the resultant figure should be negative but then the emphasis is not even on the interactive term but the fact that the two variables co-exist in one model. The power is in the synergy when they come together. Thus when they come together, what is their individual effect on the dependent variable. This indicates that the variables on their own do not affect the dependent variable unless they are put together.

Also, the results revealed that the key variable of interest, TP was not significant in the first two models. This could be due to the fact that the sample size was too small as compared to the sample size used in previous studies. Therefore, further studies should look at increasing the sample size to see if it will

become significant. The researcher is saying that the possibility is that because of the small sample and the short nature of the years that variation might not be well captured in the model. However, as we expand the number of years and the number of firms, this variation might be captured.

The study again shows that the non-financial firms manipulate more earnings than the financials whiles the financials also employ more TP than non-financials. This was based on the degrees of the regression coefficient. Also, other variables like asset tangibility, sales growth, age, and leverage were found to impact tax avoidance for non-financial firms. Again, liquidity and profitability in addition to asset tangibility were determined to negatively impact tax avoidance for the financial firms.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

The chapter presents the summary of findings, conclusions, and recommendations based on the results of the regression estimate. The summary provides a snapshot of the findings of this study. The deduction based on the empirical models is captured in the summary of findings and the conclusion. Finally, the chapter provides recommendations based on the findings of the study.

5.1 Summary of Findings

The section presents the summary of the findings as follows: First and foremost, the study examined the impact of transfer pricing on tax avoidance with the emphasis on both financial and non-multinational firms in Ghana. The study found a positive relationship between transfer pricing and tax avoidance for both financial and non-financial multinational firms implying that MNCs avoid taxes through the manipulation of transfer prices. Moreover, it was found that financial firms engage more in transfer pricing manipulation than non-financial firms. The study also found asset tangibility to relate positively and significantly with tax avoidance for the non-financial firms and at the same time associate negatively and significantly with tax avoidance for the financial MN firms.

The study also sought to examine the impact of earnings management on tax avoidance. This objective also focused on both non-financial and financial multinational companies. The result indicated that both firms avoid taxes through earnings management. Additionally, the result suggested that non-financial multinational firms engage more in earnings manipulation than the

multinational financial firms. The study found performance to relate negatively and significantly with tax avoidance for both firm categories. This indicates that profitable multinational firms are less attractive to avoidance activities. Also, the study result indicated that leverage associate negatively with tax avoidance for both firm groups which implies that highly leverage firms avoid less taxes. Though this finding contradicts the findings of existing studies, the result could mean that the sample firms avoid taxes through another medium rather than debt financing. Also, it was found that non-financial firms with more noncurrent asset and have higher growth potentials are more attractive to earnings manipulation and avoidance activities. On the contrary, the study found that financial MN firms that use more of non-current assets are not aggressive to tax avoidance. Again, it was found that highly liquid non-financial and financial MN firms have less incentive for avoidance activities. Finally, the study found firm age to relate significantly and positively with tax avoidance for both firm groups. This implies that has firms operate for more years, they become abreast with avoidance techniques and are able to employ them to their advantage.

The last but not the least, the study examined the sensitivity of transfer pricing and earnings management (TP*EM) on tax avoidance (CTA) for both financial and non-financial companies. It was found that the introduction of the interactive term (TP*EM) does not influence the direction of the relationship between earnings management (EM) and tax avoidance (CTA) for both firm groups. However, the coefficient of EM for both firm categories in table 4.5 with the interactive term as compared to the coefficient in Table 4.4 without the interactive term indicates that the sample firms engage more in earnings manipulation which results in higher avoidance when EM interact with TP.

Also, the study found transfer pricing to relate positively and significantly with tax avoidance for both firm groups with the introduction of the interactive term. This relationship though was positive but insignificant in table 4.3 for both firm categories. This indicates that the interactive term strengthens the relationship between TP and CTA. Similar to the findings of EM, the study found that the coefficient for TP for both firm groups in table 4.6 with the interactive term is higher than the coefficient of TP in table 4.3 without the interactive term. This finding also suggests that both firm groups become more aggressive to transfer pricing abuses which lead to higher tax avoidance with the introduction of the interaction between TP and EM.

For the interactive term, the study found a negative and significant relationship between tax avoidance for both non-financial and financial MN firms. However, both transfer pricing and earnings management were positive in the third model with the introduction of the interactive term. This simply means that transfer pricing and earnings management can comfortably be used in the same model for both firm groups and as such, they are perfectly independent determinants of tax avoidance. This is evidenced by the negative coefficient of the interaction term. Thus, if the interaction term had been positive, it would have meant that they tell the same story and for that matter one has to be dropped; but in this case where the interaction term is negative, it implies that transfer pricing and earnings management are not perfectly correlated and can explain their effect on tax avoidance. The finding also depicts that as the association between TP and CTA increases, the value of EM reduces and vice versa. This implies that MNCs can employ both strategies, but at any point in time the effect of transfer pricing on tax avoidance will only be higher if the value of earnings management is low. On the other hand, the effect of earnings management on tax avoidance will also be high if the value of transfer pricing is low. The negative coefficient finally

denotes that the sum of the combined effect of both strategies is less than the sum of the individual strategies.

The study again found that a non-financial MN firm with more noncurrent assets and has higher growth opportunities avoid more taxes. It was also revealed that leverage relates negatively to tax avoidance. Asset tangibility was found to associates negatively and significantly with tax avoidance for the financial MN firms. Finally, the study found firm age to relate significantly and positively to both firm groups.

5.2 Conclusion

In summary, the findings of the study show the existence of transfer pricing manipulation and earnings management practice among MNCs in Ghana. The study found that MNCs in Ghana avoid taxes through the manipulation of their transfer prices and firms reported earnings. Specifically, the study found that financial firms use more of transfer pricing manipulation to avoid taxes than non-financial firms. Again, it was revealed by the result that non-financial firms engage more earnings manipulation than financial firms. Additionally, the result of the study indicated that non-financial and financial MN firms engage more in transfer pricing abuses and earnings manipulation when the interaction variable is presence. This depicts that tax avoidance is very sensitive to the interaction of transfer pricing and earnings management. The study also found that transfer pricing and earnings management are independent and hence one does not override the other. This implies that transfer pricing and earnings management are independent determinants of international tax avoidance.

5.3 Recommendations

The study reveals that Ghana's transfer pricing enforcement regime is very comprehensive. The nature of enforcement regime is a solely contributing factor of tax revenue losses from the MNCs. This is because the comprehensiveness provides opportunities for the MNCs to exploit the loopholes to their advantages. Therefore, the study recommends that the transfer pricing unit of GRA should equip its personnel through effective training and at the same time institutes effective strategies such that the MNCs would submit a transfer pricing documentation for each intra-firm trade that takes place between the related parties. The documentation should outline the jurisdiction for the parties involved, the tax rate applicable for each jurisdiction and estimate the difference in the tax rate, the methodology employed and a justification for that method, a justification for the price charge and provide comparative analysis for which such price was charged. The study further recommends that submission of the documentation should not be made on yearly or quarterly or monthly basis but rather for each intra-firm transaction that takes place. This will help to keep track of every intra-firm trade and the acceptable price to be charged irrespective of the related parties' jurisdiction.

Additionally, the findings of the study show that MNCs avoid taxes through the practice of transfer pricing manipulation and earnings management. However, the study also recognized that taxes play a significant role in national development and therefore practices that result in revenue losses should not be entertained. Hence, the study suggests that tax authorities should be highly involved in setting the prices for related party transaction in line with the arm's length principles set out in the OECD guidelines. The authorities should as well devise all-inclusive policies to stop these practices.

Transfer pricing and earnings management also have the proclivity to reduce the earnings accruing to local shareholders and negate employees of an increase in salaries resulting from inaccurate reporting of earnings. It is therefore recommended that shareholders should be highly involved in transfer pricing issues such that any price for related party transaction will have approval from the board of directors. Thus the board should make it a requirement to have documentation on the prices of related party's transaction, do a detailed analysis to be sure that such prices meet the arm's length principle before approval will be given to the firm to use such price. With regards to this, the study further recommends that board of directors should have experts who are knowledgeable in transfer pricing issues. This will help to eliminate the manipulative behaviour of managers.

Finally, the study recommends that for the government to be able to curb down the manipulative behaviour of managers, an attempt should be made to negotiate with shareholders to offer opportunities that make managers part owners of the organization. In that capacity, managers will be highly responsible for the well-being of the company.

5.4 Contributions of the Study

The study adds to the body of growing literature on the determinant of international tax avoidance by proving evidence from the perspective of developing economics particularly Ghana. The study reveals that transfer pricing (TP) and earnings management (EM) are not complementary for both firm groups, they are independent and are determinants of international tax avoidance. The major contribution of the study rests on the fact that the study is the first to examine the sensitivity of transfer pricing and earnings management on tax avoidance. Hence, the study fills such a gap in

the literature by providing evidence on the sensitivity of transfer pricing and earnings management on tax avoidance.

Additionally, the literature on the impact of transfer pricing on tax avoidance from the context of MNCs in Ghana appears entirely non-existent. Therefore, the study attempts to fill this gap by providing empirical evidence on the impact of transfer pricing on tax avoidance from the viewpoint of MNCs in Ghana.

Again, the study was unable to measure transfer pricing using the existing measurement from the literature. This was mainly because the measurements are all non-applicable in the Ghanaian context. Also, the complex nature of the Ghana transfer pricing regulation and the reporting requirement from the MNCs mismatch such that developing a measurement from this perspective would be inappropriate and misleading. Therefore, the study pulled out three factors from the literature that point to transfer pricing abuses and developed a five-item index as a proxy to measure transfer pricing manipulation. The index constructed is the first of its kind to literature which future researcher could also use. The study, therefore, contributes to the literature on the scanty measurement of transfer pricing manipulation.

Finally, the study identifies a new determinant of international tax avoidance which is earnings management. The literature on international tax avoidance has identified and documented that transfer pricing, thin capitalization, profit shifting, tax haven utilization, the use of intangibles and the financing structure of affiliate are a determinant of international tax avoidance. None of these studies has ever examined earnings management and its association with tax avoidance from the international avoidance literature perspective. Hence, the study fills such a gap in the international tax avoidance literature by examining the association between earnings management and

international tax avoidance. The findings indicate that earnings management is a determinant of international tax avoidance.

5.5 Future Research Considerations

In this study, transfer pricing was measured using an index. Future studies should, therefore, consider an alternative approach to measure transfer pricing manipulation and to examine its impact on tax avoidance. This measure pulled three factors from the literature as its basis for the construction of a five-item index. Therefore, the study admits that the measurement may not holistically measure transfer pricing manipulation. This was due to data inaccessibility together with the complex nature of the Ghana transfer pricing regulation and the reporting requirement of the regulation from the MNCs. Accessibility to such data was denied by the GRA which made it difficult for the researcher to obtain such information. Hence, future researchers in this area should in conjunction with their supervisors write to the commissioner general for such data to be made accessible.

Also, earnings management was proxy using the discretionary component of accrual specifically, the modified Jones model (P. M. Dechow, Sloan, Sweeney, et al., 1995). Further studies could use an alternative approach such as the performance match discretionary accrual by Kothari et al. (2001) to proxy earnings management. Again, future studies could also proxy earnings management using both measures to see whether the measures differ or yield the same result.

Furthermore, tax avoidance was also proxy using the difference between STR and ETR. The ETR was measured as the total corporate tax expense minus deferred tax expense and divide the result

by Net profit before corporate tax. Future studies should measure the ETR using a different approach.

Finally, the study depended solely on annual reports for the data where data accessibility difficulty contributed to the small number of observation obtained. Future research should, therefore, consider employing survey instrument such as questionnaires.

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APPENDIX

APPENDIX 1: SHAPIRO-WILK TEST FOR NORMALITY (NON-FINANCIALS)

Variable	Obs.	W	V	Z	Prob>z
CTA	82	0.66271	23.626	6.939	0.00000
EM	81	0.73997	18.031	6.341	0.00000
TP	83	0.96714	2.324	1.852	0.03202
ROA	92	0.97485	1.937	1.460	0.07210
TPEM	79	0.84770	10.347	5.116	0.00000
LEV	92	0.53788	35.597	7.888	0.00000
TANG	93	0.93517	5.039	3.573	0.00018
GP	74	0.95327	3.009	2.403	0.00812
LIQ	80	0.77207	15.645	6.026	0.00000
SIZE	92	0.93020	5.377	3.714	0.00000

APPENDIX 2: WOOLDRIDGE TEST FOR AUTOCORRELATION IN PANEL DATA

H0: no first-order autocorrelation

F(1, 8) = 0.000

Prob > F = 0.9922

APPENDIX 3: HAUSMAN TEST (TRANSFER PRICING AND TAX AVOIDANCE)

	(b)	(B)	(b-B)	Sqrt(diag(V_b-V_B))
	femodel	Remodel	Difference	S.E.
EM	1.453479	0.8513566	0.6021228	2.475673
TP	0.329902	0.2004245	0.1294775	0.3266007
ROA	0.1708059	-0.2277253	0.3985312	0.3652004
TPEM	-1.088903	-0.6551404	-0.433763	1.101305
LEV	-0.3946819	-0.3114528	-0.0832291	0.4140241
TANG	2.381762	0.8956113	1.486151	0.7745171
GP	0.5813498	0.5829782	-0.0016284	0.1013527
LIQ	0.5780363	-0.315761	0.8937973	0.6084443
SIZE	0.0729828	0.0238009	0.0491819	0.2624457

APPENDIX 4: HAUSMAN TEST (EARNINGS MANAGEMENT AND TAX AVOIDANCE)

	(b)	(B)	(b-B)	Sqrt(diag(V_b-V_B))
	femodel	Remodel	Difference	S.E.
EM	1.4e-09	8.23e-10	6.42e-10	7.74e-10
ROA	0.0010	-0.0019	0.0029	0.0029
TP*EM	-3.50e-09	-3.70e-09	2.00e-10	4.16e-10
LEV	-0.0001	-0.0001	-0.0004	0.0006
TANG	-0.8302	-0.3980	-0.4322	0.6084
GP	-0.0057	0.0058	0.0001	0.0075
LIQ	-5.95e-07	2.43e-06	-3.03e-06	4.59e-06
SIZE	-0.0731	-0.0410	-0.0321	0.0816
AGE	0.0001	0.0000	0.0000	0.0111

APPENDIX 5: MODIFIED WALD TEST FOR GROUPWISE HETEROSKEDASTICITY

H0: sigma (i) ^2 = sigma^2 for all i
chi2 (11) = 3324.60
Prob>chi2 = 0.0000

APPENDIX 6: FIXED EFFECT REGRESSION FOR THE IMPACT OF TRANSFER PRICING ON TAX AVOIDANCE (NON-FINANCIAL)

CTA	Coef.	Std.Err	t	P>|t|	[95% Conf. Interval]	
Constant	-1.535871	3.356366	-0.46	0.656	-8.923183	5.851442
TP	0.03259	0.0456309	0.71	0.49	-0.0678	0.13302
ROA	0.0619053	0.8860196	0.07	0.946	-1.8882	2.01202
LEV	-0.4355204	0.3739483	-1.16	0.269	-1.2586	0.38753
TANG	1.588713	1.075284	1.48	0.168	-0.778	3.9554
GP	0.581839	0.2587781	2.25	0.046	0.01227	1.15141
LIQ	0.2611532	0.946958	0.28	0.788	-1.8231	2.34539
SIZE	0.0957584	0.3846868	0.25	0.808	-0.7509	0.94245
R^2 0.1095					Chi-square= 3.16	
Number of observation= 72					Prob > F=0.0432	

APPENDIX 7: RANDOM EFFECT REGRESSION FOR THE IMPACT OF TRANSFER PRICNG ON TAX AVOIDANCE (NON-FINANCIAL)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.2416178	0.4689947	-0.52	0.606	-1.160831	0.677595
TP	0.0242353	0.0696044	0.35	0.728	-0.1121869	0.160657
ROA	-0.3343422	0.4036998	-0.83	0.408	-1.125579	0.456895
LEV	-0.3805067	0.2786608	-1.37	0.172	-0.9266719	0.165659
TANG	0.8586675	0.4989299	1.72	0.085	-0.1192171	1.836552
GP	0.600195	0.1971896	3.04	0.002	0.2137105	0.98668
LIQ	-0.3354345	0.8170822	-0.41	0.681	-1.936886	1.266017
Size	0.0014209	0.0501202	0.03	0.977	-0.0968128	0.099655
sigma_u	0					
sigma_e	0.34476117					
Rho	0				Wald chi2(8) =13.9	
Number of observation= 71					Prob > chi2 = 0.0836	

APPENDIX 8: FIXED EFFECT REGRESSION FOR THE IMPACT OF EARNINGS MANAGEMENT ON TAX AVOIDANCE (NON-FINANCIAL)

CTA	Coef.	Std.Err	t	P>|t|	[95% Conf. Interval]	
Constant	1.019801	0.547316	1.86	0.092	-0.1996953	2.239297
EM	0.1102924	0.1936857	0.57	0.582	-0.3212662	0.541851
ROA	0.0000242	0.0002232	0.11	0.916	-0.000473	0.0005214
CTAACCRUAL	-8.140362	0.5751594	-14.15	0.000	-9.421897	-6.858827
LEV	-0.2826704	0.047326	-5.97	0.000	-0.3881192	-0.1772215
TANG	0.4287161	0.2185066	1.96	0.078	-0.058147	0.9155792
GP	0.2022713	0.0758523	2.67	0.024	0.0332618	0.3712808
LIQ	0.0110231	0.0302912	0.36	0.724	-0.0564698	0.078516
SIZE	-0.3769429	0.1466946	-2.57	0.028	-0.7037987	-0.050087
AGE	1.067987	0.4652173	2.3	0.045	0.0314186	2.104556
sigma_u	**0.48872991**					
sigma_e	**0.1411155**					
Rho	**0.92304538**					
R^2= 0.1911					**Chi-square= 614.70**	
Number of observation= 67					**Prob > F=0.0000**	

APPENDIX 9: RANDOM EFFECT REGRESSION FOR THE IMPACT OF EARNINGS MANAGEMENT ON TAX AVOIDANCE (NON-FINANCIALS)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.1590138	0.2893174	-0.55	0.583	-0.7260655	0.4080379
EM	-0.6733823	0.8508339	-0.79	0.429	-2.340986	0.9942215
ROA	-0.3143035	0.3247185	-0.97	0.333	-0.95074	0.322133
LEV	-0.3800161	0.133928	-2.84	0.005	-0.6425102	-0.117522
TANG	0.846772	0.4671246	1.81	0.070	-0.0687753	1.762319
GP	0.6038502	0.2190809	2.76	0.006	0.1744595	1.033241
LIQ	-0.2903743	0.4405897	-0.66	0.510	-1.153914	0.5731658
SIZE	-0.000222	0.0281945	-0.01	0.994	-0.0554821	0.0550382
sigma_u	**0**					
sigma_e	**0.34171694**					
Rho	**0**					
R-square= 0.1819	**Number of observation =71**				**Wald chi2(7) = 133.59**	
Number of observation= 71					**Prob > chi2=0.000**	

APPENDIX 10: FIXED EFFECT REGRESSION FOR THE SENSITIVITY OF TRANSFER PRICING AND EARNINGS MANAGEMENT ON TAX AVOIDANCE (NON-FINANCIALS)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-2.154786	3.506129	-0.61	0.553	-9.966927	5.657356
EM	1.453479	0.7926092	1.83	0.097	-0.3125639	3.219523
ROA	0.1708059	0.931004	0.18	0.858	0.0204403	0.6393637
TP	0.329902	0.138888	2.38	0.039	-1.9036	2.245212
TPEM	-1.088903	0.464818	-2.34	0.041	-2.124583	-0.0532244
LEV	-0.3946819	0.399026	-0.99	0.346	-1.283767	0.4944035
TANG	2.381762	1.238064	1.92	0.083	-0.3768158	5.14034
GP	0.5813498	0.2629846	2.21	0.052	-0.0046164	1.167316
LIQ	0.5780363	0.9481533	0.61	0.556	-1.534581	2.690653
SIZE	0.0729828	0.373302	0.2	0.849	-0.7587858	0.9047514
sigma_u	**0.35678339**					
sigma_e	**0.34573425**					
rho	**0.51572403**					
R^2= 0.1166					**Chi-square= 35811.69**	
Number of observation= 71					**Prob >F= 0.0000**	

APPENDIX 11: RANDOM EFFECT REGRESSION FOR THE SENSITIVITY OF TRANSFER PRICING AND EARNINGS MANAGEMENT ON TAX AVOIDANCE (NON-FINANCIALS)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.8662441	0.6215794	-1.39	0.163	-2.084517	0.352029
EM	0.8513566	1.608114	0.53	0.597	-2.30049	4.003203
ROA	-0.2277253	0.4153001	-0.55	0.583	-1.041698	0.586248
TP	0.2004245	0.1068734	1.88	0.061	-0.0090435	0.4098925
TPEM	-0.6551404	0.4332247	-1.51	0.13	-1.504245	0.1939643
LEV	-0.3114528	0.1589477	-1.96	0.05	-0.6229846	0.000079
TANG	0.8956113	0.425176	2.11	0.035	0.0622816	1.728941
GP	0.5829782	0.2287437	2.55	0.011	0.1346489	1.031308
LIQ	-0.315761	0.4600507	-0.69	0.492	-1.217444	0.5859219
SIZE	0.0238009	0.0392933	0.61	0.545	-0.0532126	0.1008144
sigma_u	**0**					
sigma_e	**0.34573425**					
Rho	**0**					
R-square= 0.2012					**Wald chi2(9)= 294.58**	
Number of observation= 71					**Prob > chi2= 0.0000**	

APPENDIX 12: FIXED EFFECT REGRESSION FOR THE IMPACT OF TRANSFER PRICNG ON TAX AVOIDANCE (with an interactive term- TP & EM called TP*EM)

CTA	Coef.	Std.Err	t	P>|t|	[95% Conf. Interval]	
Constant	-2.214692	3.452609	-0.64	0.536	-9.907585	5.4782
TP	0.1805733	0.0977977	1.85	0.095	-0.0373335	0.3984801
ROA	0.1474191	0.9204638	0.16	0.876	-1.903502	2.19834
TP*EM	-0.4998957	0.2576587	-1.94	0.081	-1.073995	0.0742037
LEV	-0.4160389	0.3721631	-1.12	0.29	-1.24527	0.4131921
TANG	2.366344	1.241938	1.91	0.086	-0.4008665	5.133555
GP	0.5980433	0.260589	2.29	0.045	0.0174148	1.178672
LIQ	0.5825313	0.9391138	0.62	0.549	-1.509945	2.675007
Size	0.1316121	0.3907516	0.34	0.743	-0.7390366	1.002261
sigma_u	0.34114496					
sigma_e	0.34316129					
Rho	0.49705349				Chi2-square =2.10	
Number of observation= 71					Prob > F = 0.1356	

APPENDIX 13: RANDOM EFFECT RESULT ON IMPACT OF TRANSFER PRICING ON TAX AVOIDANCE (OVERALL SAMPLE)

CTA	coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.2968085	0.330466	-0.90	0.369	-0.9445099	0.3508929
TP	0.054431	0.0603809	0.90	0.367	-0.0639134	0.1727755
ROA	0.0016059	0.0018096	0.89	0.375	-0.0019408	0.0051526
TANG	0.1798942	0.0541464	3.32	0.001	0.0737693	0.2860192
LIQ	0.0000153	0.0000107	1.43	0.151	-0.00000562	0.0000363
SIZE	0.0155747	0.0243592	0.64	0.523	-0.0321685	0.3508929
sigma_u	**0**					
sigma_e	**0.79007471**					
Rho	**0**					
R^2= 0.0063					**Chi-square=15.32**	
Number of observation= 217					**Prob >F= 0.0091**	

APPENDIX 14: FIXED EFFECT RESULT ON IMPACT OF TRANSFER PRICING ON TAX AVOIDANCE (OVERALL SAMPLE)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.2063006	0.6391771	-0.32	0.749	-1.499158	1.086557
TP	0.0432922	0.138888	0.95	0.346	-0.0485285	0.135113
ROA	0.0013625	0.0035497	0.38	0.703	-0.0058175	0.008525
TANG	0.6154381	0.0730622	8.42	0.000	0.4676559	0.7632203
LIQ	0.000014	0.00000212	6.57	0.000	0.00000967	0.0000183
SIZE	0.0042853	0.0776676	-0.06	0.956	-0.1613828	0.1528122
sigma_u	**0.29586689**					
sigma_e	**0.79007471**					
Rho	**0.1229878**					
R^2= 0.0044					**Chi-square= 62.13**	
Number of observation= 217					**Prob >F= 0.0000**	

APPENDIX 15: FIXED EFFECT OF TRANSFER PRICING AND TAX AVOIDANCE (NON FINANCIAL)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-1.210736	2.213509	-0.55	0.594	-1.499158	1.086557
TP	0.0045073	0.0505654	0.09	0.930	-0.1056652	0.1146799
ROA	0.491004	0.9790447	0.50	0.625	-1.642151	2.624159
TANG	0.7514825	0.6659665	1.13	0.281	-0.6995339	2.202499
LIQ	0.0149528	0.05711840	-0.26	0.798	-0.1394031	0.1094976
SIZE	0.1178387	0.267619	0.44	0.668	-0.465253	0.7009303
sigma_u	**0.16800083**					
sigma_e	**0.34338646**					
Rho	**0.19313371**					
R^2= 0.0481					**Chi-square= 1.32**	
Number of observation= 81					**Prob >F= 0.3190**	

APPENDIX 16: RANDOM EFFECT OF TRANSFER PRICING AND TAX AVOIDANCE (NON FINANCIAL)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.3335477	0.2719103	-1.23	0.220	-0.8664821	0.1993867
TP	0.0373987	0.0422975	0.88	0.377	-0.045503	0.1203003
ROA	-0.1402613	0.3455843	-0.41	0.685	-0.8175941	0.5370715
TANG	0.3530606	0.1302861	2.71	0.007	0.0977046	0.6084166
LIQ	-0.0234541	0.0175434	-1.34	0.181	-0.0578385	0.0109303
SIZE	0.0236127	0.0291787	0.81	0.418	-0.0335765	0.0808018
sigma_u	**0**					
sigma_e	**0.34338646**					
Rho	**0**					
R^2= 0.0741					**Chi-square= 30.98**	
Number of observation= 81					**Prob >F= 0.0000**	

APPENDIX 17: FIXED EFFECT TRANSFER PRICING AND TAX AVOIDANCE (FINANCIAL FIRMS)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	0.1696943	0.5223787	0.32	0.748	-0.9040706	0.0788395
TP	0.042988	0.0594208	0.72	0.476	-0.0791532	0.1651293
ROA	-0.0002257	0.0031067	-0.07	0.943	-0.0066117	0.0061602
TANG	0.594498	0.0288227	20.63	0.000	0.5352521	0.653744
LIQ	0.000013	0.00000173	7.53	0.000	0.00000947	0.0000166
SIZE	-0.0430433	0.0592951	-0.73	0.474	-0.1649261	0.0788395
sigma_u	**0**					
sigma_e	**0.34338646**					
rho	**0**					
R^2= 0.0001					**Chi-square= 280.66**	
Number of observation= 136					**Prob >F= 0.0000**	

APPENDIX 18: RANDOM EFFECT TRANSFER PRICING AND TAX AVOIDANCE (FINANCIAL FIRMS)

CTA	Coef.	Std.Err	z	P>|t|	[95% Conf. Interval]	
Constant	-0.296581	0.5209103	-0.57	0.569	-1.317546	0.7243843
TP	0.0737548	0.0752084	0.98	0.327	-0.0736509	0.2211605
ROA	0.0015694	0.002689	0.58	0.559	-0.003701	0.0068399
TANG	-0.0742592	0.0268419	-2.77	0.006	-0.128684	0.0216501
LIQ	0.000017	0.0000133	1.28	0.201	0.00000903	0.000043
SIZE	0.110953	0.0387228	0.29	0.774	-0.0648	0.0869907
sigma_u	**0**					
sigma_e	**0.97949576**					
Rho	**0**					
R^2= 0.0038					**Chi-square= 17.31**	
Number of observation= 136					**Prob >F= 0.0040**	

APPENDIX 19: VARIANCE INFLATION FACTOR: CREDIT RISK MODEL (FINANCIALS)

Variable	VIF	1/VIF
TP	1.73	0.579219
EM	2.00	0.500014
ROA	5.09	0.196367
LEV	1.64	0.611451
TANG	1.17	0.858164
GP	1.31	0.763200
LIQ	1.08	0.922121
SIZE	6.12	0.163492
AGE	1.54	0.647772
Mean VIF	2.41	

APPENDIX 20: VARIANCE INFLATION FACTOR: CREDIT RISK MODEL (NON-FINANCIALS)

Variable	VIF	1/VIF
TP	1.81	0.552977
EM	4.54	0.220264
ROA	4.55	0.219697
LEV	1.50	0.666711
TANG	1.16	0.860899
GP	1.25	0.801967
LIQ	1.11	0.904396
SIZE	5.08	0.196701
AGE	4.20	0.238095
Mean VIF	2.8	