UNIVERSITY OF CAPE COAST

COMPLIANCE COST AND TAX COMPLIANCE AMONG SMALL TAXPAYERS IN GHANA

EMMANUEL ATTOBRAH

2020

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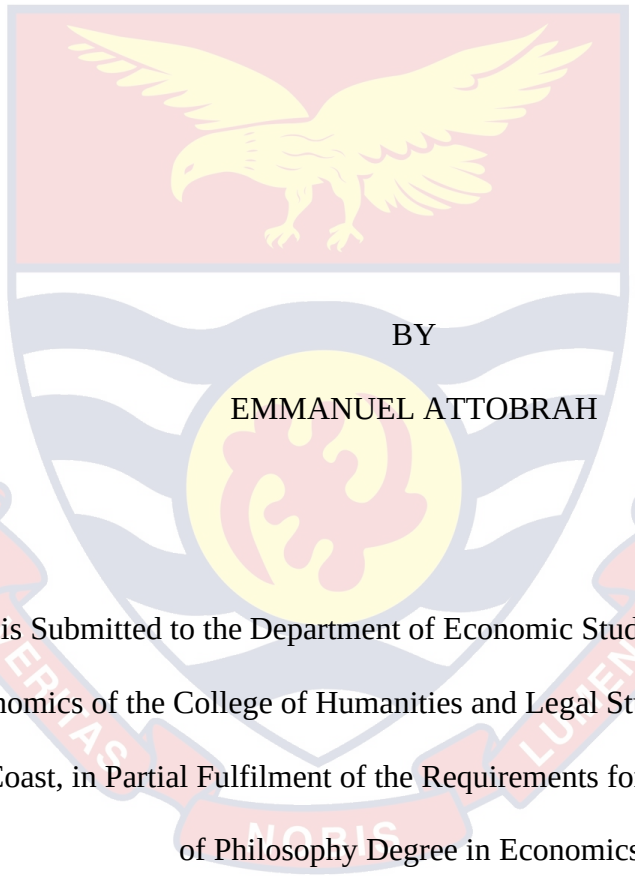

BY

EMMANUEL ATTOBRAH

Thesis Submitted to the Department of Economic Studies of the School of Economics of the College of Humanities and Legal Studies, University of Cape Coast, in Partial Fulfilment of the Requirements for the Award of Master of Philosophy Degree in Economics.

JULY 2020

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature…… Date……

Name: Emmanuel Attobrah

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature……. Date…….

Name: Dr. Camara Kwasi Obeng

Co-Supervisor's Signature…… Date…….....

Name: Dr. Francis Kwaw Andoh

ABSTRACT

This study estimates compliance cost incurred by small taxpayers for different tax handles and the extent of influence of compliance cost on tax compliance. The study goes further to examine the extent to which the effect of compliance cost on tax compliance vary among geographical location, business type and sex of taxpayer. The standard cost model was used to estimate compliance cost and Two-Stage Least Square technique was also used to examine the effect of compliance cost on tax compliance due to the simultaneous endogeneity between compliance cost and tax compliance. Data collected by Directorate of Research, Innovation and Consultancy (DRIC) of the University of Cape Coastwas used. The study finds the average compliance cost to be GH¢85 per month and varies across the different tax handles. Moreover, compliance cost is found to have a decreasing effect on tax compliance and that the effects differ among geographical location and business type. Tax knowledge, tax rate, fine rate, perception about government use of tax revenue and tax audit are significant factors of tax compliance. Therefore, the study recommends that the Ghana Revenue Authority should consider simplifying the tax laws by organising workshops and seminars to educate taxpayers so as to equip them with the needed skills and knowledge to understand the tax laws and easily file tax returns since taxpayers perceived it to be a major factor that influence tax compliance.

KEYWORDS

Compliance cost

Internal Revenue Service

Tax collection

Tax compliance

Small taxpayers

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisors, Dr. Camara Kwasi Obeng and Dr. Francis Kwaw Andoh both of the School of Economics, for their professional guidance, advice, encouragement and the good will with which they guided me in this work.

I am also grateful to Dr. James Atta Peprah, Dr. Benedict Afful Jnr, Mr. Kwabena Nkansah Darfor, Dr. Emmanuel Ekow Asmah, Dr. Eric Adu Boahene, Dr. Joshua Sebu, Dr. Isaac Ennim-Bentum, Dr. Francis Taale, Mr. Samuel Oduro, Mr. Peter Obeng, Pastor Seth Amakye, Mrs. Nancy Oduro and Mrs. Sabina Obeng for their generous contributions to make this work better.

I would also like to extend my gratitude to African Economic Research Consortium (AERC), Kenya, for sponsoring 2019 Joint Facility for Electives (JFE) programme and all the lecturers and colleagues at the JFE programme.

A very big thank you to Simon Tichutab Onilimor, Opoku Seidu, Akwasi Sarfo Aboagye-Agyeman, Kulu Evans, Grace Appiah- Kubi, Prince Charles Adubofour, Nyame Kwabena Morrison, Bertha Akwaa, Kyei Ernest, Millicent Kyei Baffour, and the late Eric Kwabena Berko Khobah for your encouragement.

I am also very appreciative to the entire staff of the School of Economics, 2018/2019 MPhil Economics year group and 2019 JFE batch. I want to thank my family for their support towards my education and also DRIC for allowing me to use their data that led to the successful completion of this study.

DEDICATION

To Thomas Kofi Amakye and Agnes Osei

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LIST OF ABBREVIATIONS

CEPS	Custom Exercise and Preventive Service
DTRD	Domestic Tax Revenue Division
DRIC	Directorate of Research, Innovation and Consultancy
GDP	Gross Domestic Product
GSS	Ghana Statistical Service
IBES	Integrated Business Establishment Survey
IRB	Institutional Review Board
IRS	Internal Revenue Service
NBSSI	National Board for Small Scale Industry
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Square
RGD	Registrar General's Department
SCM	Standard Cost Model
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
STO	Small Taxpayer Office
VAT	Value Added Tax
2SLS	Two-Stage Least Square

CHAPTER ONE

INTRODUCTION

This chapter covers the background to the study, statement of the problem, the research objectives and hypotheses, significance of the study, delimitation, limitation, definition of terms and the organization of the study.

Background to the Study

Historically, taxes have been one of the main sources of revenue mobilization for establishing social contracts, consolidating independence of nation states and achieving economic growth and development. As noted by Palil (2010) and Mukasa (2011), government raises tax revenue to fund its expenditure, budget, and reduce inequality through a programme of income redistribution. Mobilizing more domestic revenue is a main concern for most developing economies because after the global financial crisis of 2008/09, fiscal reserves declined and restocking reserves required more revenue to be generated. Again, given the rising debt level of most African countries, a larger tax revenue envelope is needed to fund critical spending on infrastructure and social needs (Drummond, Daal, Srivastava & Oliveira, 2012).

The tax revenue of Ghana as a percentage of Gross Domestic Product (GDP) has increased over the years (OECD, 2018). For instance, in the past one and a half decades, the tax to GDP ratio has increased from 10.6 percent in 2008 to 14.1 percent in 2017 as shown in Figure 1. However, this is not only much lower than the 25 percent threshold required to finance development (African Development Bank, 2018; OECD, 2018) but also lower

than the average of her lower-middle-income peers in Africa (17% of GDP) (Andoh, Osoro, & Luvanda, 2019).

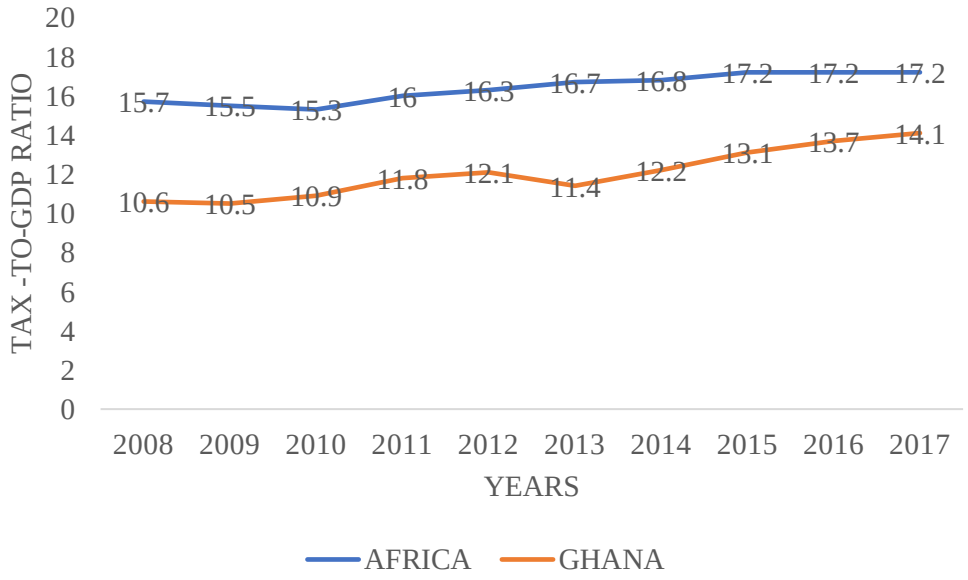

Figure 1: Tax revenue (% of GDP) for Ghana and Africa - 2008-2017

Source: Attobrah (2020)

Following the mid-1980s and early 1990s economic reforms, small taxpayers were seen as a key contributor towards economic growth since a lot of state-owned companies saw divesting (Department of Economic and Social Affairs, 2012). As defined by the Ghana Revenue Authority (2012), small taxpayers are micro and small businesses with a turnover less than ninety thousand Ghana cedis. Most of these businesses are sole traders or partnership and are engaged in business services, agriculture, construction and retail. These business operators pay different taxes including income tax, VAT and corporate tax depending on how they have registered with Ghana Revenue Authority. Data from the Department of the Registrar General shows that about 92 percent of small, medium and large companies have registered with them. Although this is indicating a chunk of small taxpayers are registered

with the department, available data on small taxpayers is not readily available. A report on the Phase II of the Integrated Business Establishment Survey by the Ghana Statistical Service (2018) indicates that small businesses are providing Ghanaians with about 71.4 percent jobs of the total workforce and 30.5 percent of total revenue. As results of the significant role small taxpayers play towards economic growth and development, the Government in 2009 integrated the various components of the Ghana Revenue Authority (GRA) to create an ease way for taxpayers especially small taxpayers to comply with their tax obligations so as to increase tax compliance at a minimum cost among taxpayers, especially small taxpayers.

Despite the contributions of small taxpayers to economy, recent works in Ghana on tax compliance indicates that small taxpayers are regarded as having low tax compliance on the average in relations to medium and large taxpayers (Kuug 2016; Okpeyo, Musah & Gakpeto, 2019). The GRA defines tax compliance as the ability and willingness of taxpayers to comply with tax laws, file returns and pay all taxes on time. Taxing small taxpayers have become a major challenge to tax authorities and government since it is difficult to convince and capture them into the tax net (Chepkurui, Namusonge, Oteki & Ezekiel, 2014). This challenge is due to the improper structure guiding the informal sector which harbours the chunk of small taxpayers (Elmirzaev & Kurbankulova, 2016). This puts tax authorities in a difficult position to trace, monitor and audit the activities of small taxpayers so as to improve tax compliance towards revenue generation. The aim of the government and Ghana Revenue Authority (GRA) is to improve voluntary tax compliance among small taxpayers so as to widen the tax net and increase

revenue. This means that identifying the factors and the extent to which they underpin tax compliance of taxpayers is very crucial. Elmirzaev and Kurbankulova (2016) stated that the level of tax compliance has a direct correlation with the revenue mobilization in a country. It is widely believed that compliance costs are regressive in nature for small taxpayers who lack the knowledge and skills of the tax laws (Smulders, 2013; Kuug, 2016). It could therefore be a major influence of small taxpayers' compliance behaviour. Thus, compliance cost with the tax obligation on the average is proportionately higher for small taxpayers as compared to larger ones.

Conceptually, compliance costs are the costs, other than the tax liability, that a taxpayer must bear as part of meeting their tax obligation (Smulders, 2013). These costs include the time spent on travelling to the tax office, queuing, recording tax related matters, acquiring knowledge on the tax system, and filing of tax returns and money paid to external tax expert in performing tax related matters. Compliance costs incurred by small taxpayers serve as a deadweight costs to them, distort economic decision-making of the business, create disincentive for them to produce and invest, reduce tax equity, impede growth of business and later reduce their profit. (Schoonjans et al., 2011). Adam Smith in his "Wealth of Nation", notes that compliance cost only raises the effective tax burden of the business without an increase in tax revenue (Eichfelder & Vaillancourt, 2014) and it negatively affects their general compliance behaviour.

Small taxpayers are extremely diverse, and differ considerably in terms of the competitive environment in which they operate, the people who manage the business and the choice to register their business. Therefore, compliance

cost and the extent to which it influences small taxpayers' tax compliance could also vary among the choices that small taxpayers make such as how they choose to register their business, the location they operate their business and the people who manage the business (Remali, Khan, Arif, Zulkifly, & Yusri, 2018).

Statement of the Problem

The first target of Goal 17 of the Sustainable Development Goals (SDGs) stresses the need to intensify domestic resource mobilization, increase domestic tax mobilization and raise other revenue collection. Small taxpayers have the potential of contributing immensely to improved tax revenue. However, compliance cost is noted to undermine tax compliance of taxpayers, especially small taxpayers, and that can affect tax revenue performance of the nation (3rd Strategic Report of GRA, 2019). While compliance cost is widely believed to influence tax compliance, existing literature in Ghana such as Kuug (2016) ; Amanamah, Acheampong and Owusu (2018);Okpeyo, Musah and Gakpeto (2019) largely fails to compute the amount of compliance cost incurred by small taxpayers when performing their tax obligations. Again, these studies failed to examine the variations in the amount of compliance cost incurred among business type, location and sex of the taxpayer. There exist various forms of taxes in Ghana, with each coming with a unique compliance cost. Moreover, small taxpayers are extremely diverse and operate across different geographical locations, business types and are managed by different gender types, and therefore, the dynamics of compliance costs and the level of influence on tax compliance could differ among different business types, geographical locations and gender of taxpayers.

Furthermore, empirical studies in Ghana (Kuug 2016; Okpeyo, Musah and Gakpeto, 2019) have looked at the determinants of tax compliance using multiple regression estimation but failed to examine how compliance cost affects tax compliance. However, using Ordinary Least Square (OLS) technique to estimate the causality between compliance cost and tax compliance may not be the appropriate estimation technique because this approach obviously leads to inefficient estimates and wrong inference given that OLS is unable to deal with endogeneity issues arising from compliance cost (Barbone & Vázquez, 2012). Overlooking such nuances can lead to inappropriate policy recommendations. Therefore, in an attempt to address these drawbacks, this study adopted the Two Stage Least Square (2SLS) estimation as proposed by Abdallah, Goergen and O'Sullivan (2015) to examine the influence of compliance cost on tax compliance for the different type of taxes and how its effect differs among geographical location, business type and gender of taxpayer.

Purpose of the study

The aim of this study is to examine compliance costs and tax compliance behaviour among small taxpayers in Ghana.

Research Objectives

Specifically, to:

1a. Compute the amount of compliance cost incurred by small taxpayers

1b. Examine the variations the amount of compliance cost incurred across business type, location and sex of the taxpayer

2. Investigate the effect of compliance cost on tax compliance

3. Examine the extent to which the effect of tax compliance cost on tax compliance differs among geographical location, type of business and sex of taxpayer.

Research Question

1a. How much cost do small taxpayers incur order to comply with tax obligations?

Research hypotheses

1b. H_0 : There is no significant variation in compliance cost across business type, location and sex of the taxpayer

H_1 : There is a significant variation in compliance cost across business type, location and sex of the taxpayer

2. H_0 : Tax compliance cost does not significantly affects tax compliance

H_1 : Tax compliance cost significantly affect tax compliance

3. H_0 : Effect of compliance cost on tax compliance does not vary among business type

H_1 : Effect of compliance cost on tax compliance does differ among, business type

Significance of the study

The findings of the study will contribute in enhancing the tax revenue of the government by identifying factors that influence compliance of taxpayers. From policy makers perspectives, this information will assist tax authority to know compliance cost of small taxpayers. This will help to develop appropriate policies to minimize tax compliance cost problem. The Ghana Revenue Authority (GRA) and policy makers will get better understanding on the extent to which compliance cost affect tax compliance.

This will shed light on the extent to which tax compliance cost should be reduced to achieve a desired compliance goal. It will also be used as a reference for those who need to conduct further study in this field. Last but not least, it will fill the gap identified under this study and will enhance the level of tax revenue which is very important to successfully achieve the first target of goal 17 of SDGs.

Delimitation

The study was conducted on small taxpayers registered with the Ghana Revenue Authority in three selected Regions in Ghana. Tax compliance, compliance cost, tax knowledge, fine rate, tax audit, complexity about the tax system, perception about government use of tax revenue, service used to honour tax compliance, tax rate and experience were the variables used in the study.

Limitation

Like any other study, this study is not without limitations. Given that this study was cross-sectional, monitoring changes in behaviour over time was not possible. Longitudinal data may provide significantly different results. Also, the study could not capture all small taxpayers in all the regions in Ghana. The study focused on only three regions (Greater Accra, Ashanti and Northern region)

Moreover, the study was unable to compute the cost incurred for various components used in estimating compliance cost. Despite the limitations stated, however, care was taken to ensure that the results presented were as accurate as possible.

Definition of Terms

Tax compliance refers to ability and willingness of taxpayers to comply with tax laws, file returns and pay all taxes on time.

Compliance cost refers to the cost other than the tax liability incurred by taxpayer when complying with the tax laws.

Small taxpayers are business with a turnover less than GH¢90,000.00

Organisation of the study

The study consists of six chapters. The first chapter deals with the introduction of the study which includes the background to the study, statement of the problem, objectives, research questions, and significance of the study. Chapter Two gives an overview of small taxpayers in Ghana which consists of the definitions, roles, and characteristics, and the taxes they pay as well as the tax policies of small taxpayers. Chapter Three contains the literature review which is further divided into the theoretical literature and empirical literature. Chapter Four covers the research methods comprising the research design, the study area, study population, measurement of variables, sample size, and data processing and analysis method. Chapter Five deals with the presentation and discussion of the findings of the study. Finally, chapter six gives the conclusion, recommendations and area for further studies.

CHAPTER TWO

OVERVIEW OF SMALL TAXPAYERS IN GHANA

Introduction

This section presents an overview of small taxpayers in Ghana which includes the definition of small taxpayers, their roles, characteristics, tax levy on them, and tax policy reforms.

Definition of Small Taxpayers

There is no commonly agreed definition of small taxpayers because the definition depends on who defines the term, where it is defined and the industry at which it is defined. It is therefore, difficult to apply a single definition since a definition which classified companies as small, when used in a different field will categorize the same business as medium or large. The widely accepted criterion for identifying small taxpayers' business is the number of employees, capitalization size, asset value, and sales turnover (Mukasa, 2011).

Ghana Statistical Service (2015) categorizes companies with employees less than ten (10) as small and micro-enterprises. Alternatively, the Ghana National Board for Small Scale Industries (NBSSI) describes small taxpayers as a business with not more than nine employees with machinery not exceeding ten million Ghana Cedis except land, buildings, and vehicles. Also,the Ghana Revenue Authority (GRA) defines small taxpayers as micro and small businesses with a turnover less than ninety thousand Ghana cedis. The study therefore employed the definition given by GRA in defining small taxpayers since the sampled used in the study were sampled from the list given by the GRA.

Characteristics of Small Taxpayers

The main features of small taxpayers include the number of employees, the amount of sales, the specific product they produce and the capital. Bolton (1971) found three key characteristics of small taxpayers: they have a comparatively small market share and are mostly price takers of their products or services; mostly privately-owned companies, partnerships, or sole proprietorships. The main activities involve in this sector consist of soap manufacturing, textiles, electronic assembly, tailoring, clothing, bakeries, ceramics, handmade timber and small-scale mining, chemical products, food processing, wood furniture, local beverage production, bakeries, agro-processing and mechanics (Abor & Quartey, 2010). Centralized management, adequate government funding, marketing incentives, overseas exposure, educational and training level of owner/managers, personal attributes are also some crucial success incentives of small taxpayers.

Roles of Small Taxpayers

According to Essilfie (2009), small taxpayers are considered to be a great contributor to economic growth and development in an economy. Nowadays, most of the world's leading economies depend on this business class as their main contributors to increase living standards, efficiency, and competitiveness. The importance of small taxpayers to social and economic development in developing countries like Ghana is acknowledged. It is a well-acknowledged by policymakers and researchers that small taxpayers play a vital role in economy such as creating jobs, promoting economic growth, innovation and ensuring competition among businesses in the economy (IBES, 2015). It is also estimated that small taxpayers produce around 50 percent of

national production and provide Ghanaians with about 70 percent of jobs (IBES, 2018).

Taxation of Small Taxpayers

Taxes are the obligatory fees charged by the government of a country as a way of mobilizing revenue to finance its expenditure (Acheampong, 2016). Taxes are fiscal policies of governments to promote sustainable growth and economic development. Taxes are introduced to help fund the government's budget deficit, promote economic growth or combat other external factors. Small taxpayers' tax rate for the year 2020 remains 21 percent. However, small taxpayers pay different tax rate based on their entities. Generally, small taxpayers registered as sole proprietorships pay 13.3 percent tax rate, partnership firms pay 23.6 percent tax rate and small corporate business pay a 26.9 percent tax rate. Taxation may have significant effects on the income of small taxpayers as well as on their production, performance and level of compliance (Asante & Marfo-Yiadom, 2010). Taxes imposed on goods and services increase the cost of production which ultimately leads to an increase in the prices of goods and that affects the final consumers. However, the development of a favourable environment for the growth of taxpayers while ensuring tax compliance is a challenge faced by most economies. Compliance of small taxpayers with the laws and rules governing the collection and implementation of tax assessments may be considered as the tax principles. These include fairness: taxes must be equal and consistent with the taxpayers' benefits; economic growth: taxes paid should be directed towards achieving the goals needed for a country's economic growth; equity: income and expenditure of taxpayers should balance

their tax liabilities; convenient: frameworks on how taxes should be paid should be appropriate; for taxpayers (Asante & Marfo-Yiadom, 2010).

Classification of Taxes in Ghana among Small Taxpayers

In Ghana, taxes are grouped into direct and indirect taxes. Direct taxes are business taxes which are primarily aimed at the same person or organization. They are further categorized into Personal income tax; this is a tax levied on the earnings of employees and is progressive in nature. Also, corporate tax is another form of direct tax imposed on the profits of companies. Another form of direct tax is gift tax. This tax is imposed on personal transfer of wealth from one individual to another. Some exemptions are exempted and the tax rate is charged on gifts that are taxable and above fifty cedis.

On the other hand, indirect taxes are charged on goods and services (Asante & Marfo-Yiadom, 2010). This type of taxes includes consumption tax, VAT, and they are incurred when goods and services are purchased.

Tax Policy and Reforms among Small Taxpayers in Ghana

In creating a conducive and appropriate atmosphere for business success, the government's reform taxes are used to gear long-term economics. Governments have introduced many tax policies to encourage and protect the growth of small taxpayers. Regardless of these concerns, compliance with taxes should create a serene atmosphere in which small taxpayers can increase their operations at minimal compliance costs.

Tax policies and reforms have been implemented in Ghana to guarantee tax compliance. The Ghana Revenue Authority (GRA), for example, was merged in 2009 with the Internal Revenue Service (IRS) and the Custom

Exercise and Preventive Service (CEPS) to enhance tax payment, increase tax system efficiency and minimize compliance costs. Also, the Ghana Government launched the e-government project in November, 2011 to connect the GRA to the Registrar General's Department (RGD) to keep electronically bills on the payment of taxes from registered companies. The scheme for flat rate Value Added Tax (VAT) was adopted by Parliament Act 734 in 2007, which acted as an amendment to the VAT Act, 1998, Act 546. For example, in Ghana, the Tax Stamp imposed a flat tax on different SMES retailers. All of these tax reforms have been implemented to protect and ensure the growth of small business in Ghana.

CHAPTER THREE

LITERATURE REVIEW

Introduction

This section focuses on theories and works which are related to the study. The review covers both empirical and theoretical evidence related to compliance cost and how it affects tax compliance among small taxpayers.

Theoretical Literature

This section outlines some theories that explain tax compliance, compliance costs and other variables used in the study. They include the deterrence theory (Allingham & Sandmo, 1972) and planned behaviour theory (Ajzen, 2011). These theories have been used as basis to select variables used in the study.

The Deterrence Theory

Allingham and Sandmo (1972) first employed this model in the framework of tax compliance. They proposed that economic factors like tax rate, penalty and the probability of detecting non-compliance influence tax compliance behaviour. This theory considers taxpayer as a rational economic agent who analyzes tax evasion costs and benefits, and agrees not to pay if the advantage of non-compliance exceeds the cost (Walsh, 2012). The theory of considers taxpayers as perfectly immoral benefit maximizers, who chose to evade taxes if the anticipated gain exceeds the evasion costs (Allingham & Sandmo, 1972). The theory suggested that sanctions deter taxpayer compliance behaviour and that a reduction in tax rate, increase in the penalty rate and a higher probability of detection would increase tax compliance.

The theory has been criticized in that it is not reasonable to justify compliance by the taxpayer because it assumes that non-compliance is beyond what can be observed (Slemrod, 2007). In spite of the use of audit and fines, tax non-compliance is still widespread in developing countries and significantly affect the economy. In fact, some people never seek to evade tax even if the probability of detection is zero (Bello & Danjuma,2014). Consequently, several scholars have contended that the issue of tax compliance should be why people pay tax and not why they evade it (Slemrod, 2007). Hence, behavioural variables such as tax knowledge, perception, and moral decisions were not considered in the economic theory (Cullis & Lewis, 1997). This study had examined the perceptions of small taxpayers on economic factors such as tax rate, tax audits and penalties as they highly influenced tax compliance. Hence many authors have argued that in dealing with tax compliance issues; economic variables should not only be considered but behavioural variables must also be considered.

The Planned Behaviour Theory

The behavioural theory, on the other hand, suggests that people are not just autonomous but behave based on their perceptions (Ajzen, 1991). The behavioural perspective combines sociological and psychological influences such as perception, age, knowledge, culture and tax rationale as factors that influence taxpayer compliance behaviour. This model is important because it predicts that non-economic variables such as age, perception, knowledge, and also influence tax compliance behaviours indirectly by their impact on incentives and attitudes to non-compliance.

Therefore, the study combines both theories because a single approach is unlikely to be successful in understanding taxpayers' compliance behaviour. It is also complicated and difficult to analyze taxpayer behaviour, as the related literature comes from a variety of fields including economics, psychology, and sociology. Both the economic and behavioral theories have helped explain tax compliance behaviour, and therefore, the study adopts both theories in selecting the variables that affect taxpayers' compliance.

Empirical Literature

This section presents empirical works related to tax compliance, compliance cost and other compliance factors used in the study. These other factors include; tax knowledge, fine rate, tax audit, complexity about the tax system, experience, perception about government usage of tax revenue, tax rate and the service used to deal with tax activities.

Tax Compliance among Small Taxpayers

Tax compliance of small taxpayers is a major challenge faced by many developing economies, including Ghana, because it is difficult to convince them to comply with tax laws (Chepkurui, Namusonge, Oteki, & Ezekiel, 2014). Tax compliance level has a direct link to a country's revenue generation (Elmirzaev & Kurbankulova, 2016). The level of tax compliance among small taxpayers is considered to be low due to several reasons, such as poor management and improper structures that guide the activities of small taxpayers. Another contributing factor is lack of proper tax system to detect non-compliance in the informal sector, consequently this makes it difficult for tax authorities to monitor the activities of small taxpayers. In addition, small taxpayers have limited resources and technical capacity. Tax compliance of

small taxpayers with the tax system arises only when they comply with tax laws (Kirchler, Muehlbacher, Kastlunger,& Wahl,2010.), however, their compliance with tax laws is associated with high compliance cost.

Compliance Costs and Tax Compliance

Costs of compliance can be partitioned into time which include the travelling time, queuing time, recording and time spend on filling tax related matters and money costs. In general, several researchers have tried to estimate the costs of compliance and its influence on tax compliance. Schoonjans et al. (2011) and Coolidge (2012) studied developed countries using World Bank data and concluded that compliance costs are high and regressive in nature for small taxpayers. Coolidge (2012) further claimed that while larger taxpayers can spend 1 percent of their revenue on costs of tax enforcement, small and medium-sized businesses (SMEs) will spend about 5 percent to 15 percent or more of their profits as compliance costs.

Evans, Hansford, Hasseldine, and Lignier (2014) conducted a study in Australia, Canada, and the United Kingdom on SMEs and their findings revealed that compliance cost is high and regressive in nature for small business as compared to medium enterprises and it rises over time. Similarly, Vaillancourt, Roy-César, and Silvia Barros (2013) published similar findings in Canada. Lignier, Evans and Tran-Nam (2014) did a similar work on compliance cost in New Zealand and Australia. The results from the survey indicated that SMEs were faced with high compliance costs and the compliance cost was also regressive.

In the case of Africa, studies such as Eragbhe and Modugu (2014), Smulders and Vaillancourt (2014) and Makara and Pope (2013) reported that

compliance cost are high for SMEs as compared to large businesses in Nigeria, South Africa and Botswana respectively but these studies failed to examine how compliance cost affects tax compliance.

A reviewed of literature by Barbone, Bird and Vázquez (2012) indicates that there is no comprehensive study of how tax compliance cost influences tax compliance. As results of this, many researchers have conducted a study on how compliance costs influence tax compliance in the world. A study by Ramboll Management Consultancy, the Evaluation Partnership and Europe Economic Research (2013) on methodologies for calculating the cost of tax compliance indicated that that high cost compliance could decrease voluntary compliance. Loo et al. (2012) have shown that compliance cost decreases taxpayers' compliance.

In Africa, studies such as Mahangila (2017), Luca, Richard and Jaime (2012) and Mogeni (2012) have also conducted a study on the relationship between compliance cost and tax compliance. Mahangila (2017) conducted experimental study on 75 small and medium entrepreneurs to examine whether income tax compliance costs affect tax compliance. The findings of the study indicated that compliance cost significantly reduces tax compliance. Similarly, Luca, Richard and Jaime (2012) used VAT gap data collected by Reckon (1999) and found a strong positive relationship between the VAT compliance and compliance cost of VAT. Furthermore, Mogeni (2012) in Kenya conducted a study on how compliance cost influences tax compliance of companies listed at the Nairobi Securities Exchange and researcher concluded that compliance cost reduces compliance using ordinary Least Square estimation (OLS).

Okpeyo, Musah and Gakpeto (2019) sampled 100 Small and Medium taxpayers using stratified sampling technique and other GRA officials to examine the influences of tax compliance in Accra and the results of the study showed that compliance cost of taxpayers is among the factors that taxpayers perceived it influenced their tax compliance level especially for small enterprises. Kuug (2016) also conducted a study on the factors influencing tax compliance using OLS among small and medium-sized enterprises in Ghana and her findings strongly supports the claim that increase in tax compliance costs have a decreasing effect on tax compliance.

Other variables used in the Study

This sub-section deals with other variables that the study hypothesized could influence tax compliance. One of the key variables considered is tax knowledge. Tax knowledge appeared as a significant point in assessing tax compliance behaviour (Loo, 2006). People's understanding of tax law allows them to quickly meet their tax responsibilities (Nsubuga et al., 2014; Bruce-Twum, 2014). Understanding the underlying tax issues and system is very important for taxpayers (Palil, 2010) because as noted in the work of Saad (2014), improving taxpayer's knowledge on the tax system would increase taxpayers' understanding of the tax system and shape their attitudes towards tax compliance to be positive.

Mukasa (2011) conducted a study on SMEs in the Central Division of Kampala and concluded that there is significant positive relationship between tax knowledge and tax compliance. This means that a better understanding of tax system by taxpayers would most likely push them to comply with tax laws and increase tax compliance. Given the evidence from earlier studies that tax

knowledge improves taxpayers' compliance level, we therefore, theorize that there is a positive relationship between tax knowledge and small taxpayers' compliance.

Another factor that seem to also affect taxpayer's compliance is fine rate (penalty). As suggested by Allingham and Sandmo model (1972), if people are forced to pay higher fines for not complying with the tax laws, it will have the effect of stopping them from potential tax avoidance. Studies (Abdul-Razak & Adafula 2013; Atawodi &Ojeka, 2012; Loo et al.; 2012; Sophia 2016: Okpeyoa, Musah & Gakpetor, 2019) have shown a positive relationship between the fine rate and tax compliance.

Moreover, high tax rates have the tendency to discourage business from complying with the tax laws. Raising minimal assessment rates will probably encourage taxpayers to comply with tax laws (Trivedi, Shehata, & Mestelmen, 2004; Kirchler, 2007). Allingham and Sandmo (1972) argued that lower tax rate imposed on taxpayers may encourage them to complete tax returns, pay and return tax assessment on time. Reviewed works have shown a negative relationship between high tax rate and tax compliance (Abdul-Razak & Adafula, 2013; Atawodi & Ojeka, 2012; Loo et al., 2012).

Tax audits have also been found to enhance tax compliance behaviour by tax authorities to boost tax compliance (Loo et al., 2012). The use of tax audit ensures that taxpayers do a thorough job in preparing their tax returns, as any anomalies are found by tax audits and will incur some penalties. Taxpayers who are routinely audited by tax authorities are more likely to comply than those who are not frequently audited because of the concern that

they will be captured through auditing (Kuug, 2016; Okpeyoa, Musah, & Gakpetor, 2019).

Taxpayers are highly responsive to how the government spends its money, particularly those who pay their taxes. Even though, studies on the perception of government use of tax revenue and taxpayer's compliance are scanty, yet, it is fair to believe that taxpayers' perception about how the government spend its revenue is a contributing factor of tax compliance. A study by Palil (2010) in Malaysia on the determinants of tax compliance revealed that taxpayer's compliance level increases when they perceived the government to use tax revenue on projects that benefit them. Similarly, Chebusit et al., (2014) found a positive impact of perceptions of government use of tax revenue on tax compliance. In conclusion, a perception of taxpayers on government spending on tax revenue is potentially key in determining factors that influence tax compliance behaviour. Therefore, taxpayers' perceptions on government usage of tax revenue influence tax compliance positively.

Moreover, getting many older taxpayers may be beneficial in terms of contributing to overall tax revenue. Studies have shown that taxpayer's age of doing business positively influence taxpayer's compliance level (Alm et al., 2010). Findings from the study of Clotfelter (1983) show that old age are expected to comply with tax obligation more than younger ones because older taxpayers are assumed to have a risk-averse attitudes which will prompt them to comply more than younger taxpayers (Acheampong, Ofori, &Yeoman, 2016).

Another factor considered to influence taxpayer's compliance is complexity of the tax system**.** The concept, complexity means the difficulties in interpreting tax laws, and the obstacles that must be met in when complying with tax obligations (Saad, 2010). Complexities of tax legislation are generally in two forms: complexity of content and complexity of compliance. The primary aim of every tax policy is to raise tax revenue. This goal can be accomplished by enacting laws intended to discourage tax evasion and avoidance. Government acts in raising tax revenues and dealing with non-compliance form the substance of tax laws. Through this regard, the government's response to the actions of taxpayers appears like a game of 'cat-and-mouse' (Picciotto, 2007). Taxpayers, on the one hand, find ways to reduce their tax liabilities while the government seeks to find ways to increase tax obligations. Over time, amending tax laws to avoid tax liability reductions result in complicated tax legislation (Oliver & Bartley, 2005). However, such systems may only raise the cost of compliance when the taxpayers do not understand tax system otherwise; tax compliance costs are transferred from tax authorities to taxpayers (Oliver & Bartley, 2005). Complexity of the tax system affects tax compliance behavior of taxpayers and businesses because taxpayers lack the skills needed to understand and interpret such a complex system.

Finally, the kind of service used to honor tax obligation can influence taxpayer's compliance level. The kind of service used in honoring tax obligation just as Dunlop and Radaelli (2016) have described, can be internal or external or both. This implies that firms which engage external providers in the preparation or filing of their returns are likely to have higher compliance

costs compared to firms that resort to only internal service providers. Thus, using the services of external service provider increases the external compliance costs as compared to business that uses only internal service provider in dealing with tax activities (Smulders,Stiglingh, Franzsen & Fletcher, 2017). This is because outsourcing external service provider to comply with tax laws will charge higher fees than the costs internal service provider will charge. Therefore, a business using external service provider compliance level reduces more than a business using only internal service.

Conclusion

This chapter looked at both theoretical and empirical literature on cost of compliance and tax compliance. From the empirical review, compliance cost is believed to be a factor that influence tax compliance but existing literature largely fail to compute the amount of compliance cost incurred by small taxpayers, examine the variations in the amount of cost incurred among business type, location of the business and sex of the taxpayer in Ghana.

Moreover, the dynamics of compliance costs and level of influence on compliance could differ among different business structures, geographical locations and gender of taxpayers. Furthermore, empirical studies have not examined the effect of compliance cost on tax compliance. This study therefore, overcomes these gaps by computing the average compliance cost of small taxpayers among the different tax handles and the extent of its on-tax compliance for the different type of taxes and how compliance cost affect compliance level among geographical location, business type and gender of taxpayer.

CHAPTER FOUR

RESEARCH METHODS

Introduction

This section presents the research design, the data, and the empirical model, the estimation techniques used for testing the hypotheses, description of the variables used for the study, and conclude with a chapter summary.

Research Design

Research design is the approach that a researcher chooses to integrate the different works of a study coherently and logically (Wengel, McIntosh & Cockburn-Wootten, 2019). This study employs the positivist philosophy since it allows the researcher to study social process in a deductive manner as well as explain relationship between variables. In an attempt to study reality, positivist researchers operationalize concepts in order to measure them and used them to formulate hypothesis so as to help in drawing conclusions. Research approach can be qualitative, quantitative, or mixed (both quantitative and qualitative). The quantitative approach is where data are collected in the form of numeric scores, metrics, and so on (Bhattacherjee, 2012). This approach works through the development of testable hypotheses and theories that lead to generalization. Research instruments like questionnaires, surveys, personality assessments, and other standardized testing tools are some of the methods used for collecting data under this approach.

Qualitative design collects data through interviews, observations, while mixed approaches are used to perform research involving the selection, analysis, and synthesis of both quantitative and qualitative data. This method is used when this integration is necessary to provide an understanding of the

research problem than all of the individuals. However, this study uses quantitative research approach due to the quantitative nature of the study. Also it is found to be suitable for analysing a phenomenon by considering the cross section of the population at one point in time (Dolnicar & Ring (2014). Again, compared to qualitative approach, quantitative research approach has the ability to limit the biases on the part of the researcher.

Data Type and Source

The data is a cross sectional survey designed to gather information on small taxpayers cost of compliance and tax incentives. Multi-stage sampling technique was used in gathering the data with a response rate of 71%. The data was conducted between November, 2019, and January, 2020 from three selected regions in Ghana (Greater Accra, Ashanti and Northern region). The selection of these regions was based on their tax capacity and revenue contribution to the economy. The data has thirteen modules. Module A gives the background information of respondents, followed by Module B which gives the identification of the firm. Module C provides information on employment data, module E gives information on expenses and assets of the firm, module E indicates the taxes paid by the firm. Likewise, module F provides knowledge on Ghana's tax system, Module G gives information on tax compliance, module H provides information on tax compliance cost. Moreover, module I gives information on firm's perception, Module J provides information on tax education, module K gives information on Technology Adoption, module L provides information on firm's investment decision and the last module (module M) provides additional information that was not captured in the previous modules of the firm.

Data Management and Generation of variables

The Stata Statistical Software version 14 was used for the data management and statistical analysis. In the first place, all missing values were dropped till the sample size stablised in interest module used in the study. The final sample size used for the study was 497. In the statistical analysis, both descriptive and inferential statistics were provided in the form of graphs and tables. Descriptive statistics (mean score and its corresponding standard deviation), and inferential statistics were used to analyze continuous data. For categorical data, frequency tables with its associated percentages were used.

Empirical model Specification

To examine the effect of compliance cost and tax compliance, the study used the Two Stage Least Square regression approach suggested by Abdallah (2015). The study therefore draws its model from the works of Kuug, (2016) and Okpeyo et al (2019). The empirical tax compliance model is specifield as:

$$TC = \alpha_0 + \alpha_1 TK + \alpha_2\, FR + \alpha_3 TR + \alpha_4 P + \alpha_5 TA + \alpha_6 \mathrm{EXP} + \alpha_7\, COM + \alpha_8 \mathrm{i.SU} + \alpha_9 CC_i + \upsilon \ldots\ldots\ldots\ldots\ldots\ldots 1$$

As result of the simultaneous endogeneity between tax compliance and compliance cost, a reduced form equation is also specified.

Reduced form equation (First Stage):

$$CC = \alpha_0 + +\alpha_1 TK + \alpha_2\, FR + \alpha_3 TR + \alpha_4 P + \alpha_5 TA + \alpha_6 \mathrm{EXP} + \alpha_7\, COM + \alpha_8 \mathrm{i.SU} + \upsilon \ldots\ldots\ldots\ldots\ldots\ldots 2$$

Structural form equation (Second stage):

$$TC = \beta_0 + \beta_1 ln\widehat{CC} + \beta_2 TK + \beta_3\, FR + \beta_4 TR + \beta_5 P + \beta_6 TA + \beta_7 \mathrm{EXP} + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots 3$$

The structural form equation was used to examine the effect of compliance cost on tax compliance. β represents parameters to be estimated, ε represents the composite Gaussian white noise that is uncorrelated with the explanatory variables. CC represents compliance Cost, TK denotes Tax Knowledge, EXP denotes the age of firm since registered with GRA, FR denotes Fine rate, TA denotes Tax audit, TR denotes Tax rate. Moreover, COM denotes Complexity of Tax System, P denotes Perception about Government use of tax revenue and SU denotes service used by the firm in dealing with tax activities and the subscript "i" attached to independent variable of interest compliance cost denotes the various compliance cost associated with the various tax handles in the study.

To achieve objective three, each business type, location of the business and sex of the taxpayer was introduced into the structural form equation 6 separately. The structural form of equation 6 becomes:

$$\mathrm{TC}_i = \beta_0 + \beta_1 ln\widehat{CC} + \beta_2 TK + \beta_3 FR + \beta_4 TR + \beta_5 P + \beta_6 TA + \beta_7 \mathrm{EXP} + \varepsilon \ldots \ldots \ldots \ldots (4)$$

$$\mathrm{TC}_i = \beta_0 + \beta_1 ln\widehat{CC} + \beta_2 TK + \beta_3 FR + \beta_4 TR + \beta_5 P + \beta_6 TA + \beta_7 \mathrm{EXP} + \varepsilon \ldots \ldots \ldots \ldots (5)$$

$$\mathrm{TC}_i = \beta_0 + \beta_1 ln\widehat{CC} + \beta_2 TK + \beta_3 FR + \beta_4 TR + \beta_5 P + \beta_6 TA + \beta_7 \mathrm{EXP} + \varepsilon \ldots \ldots \ldots \ldots (6)$$

The subscript "i" in equation 4 denotes tax compliance of small taxpayers based on the type of business, geographical location for equation 5 and sex of the taxpayer for equation 6.

Estimation Technique

This sub-section presents the estimation technique used in analysing the cleaned data to achieve the objectives and hypotheses of the study. The technique used is the Two Stage Least Square (2SLS).

Two-Stage Least Square (2SLS)

This study employed the Two-Stage Least Square estimation technique (2SLS) to estimate the effect of compliance cost associated with the different type of taxes on tax compliance and the extent to which the effect of compliance cost on tax compliance differ. The 2SLS is a statistical estimation technique that is used in the analysis of structural equation and is an extension of the Ordinary Least Square (OLS) estimation method. The purpose for using the 2SLS is that there are contemporaneous realizations of how both the dependent variable (tax compliance) and the explanatory variable of interest (compliance cost) affect each other. Such endogeneity is a simultaneous type; thus, the dependent variable influences the explanatory variable, which in turn is influence by the dependent variable. To correct this problem of endogeneity, we needed an instrument(s) that does (do) have a direct effect on compliance cost but do not directly affect tax compliance (Cameron & Trivedi, 2010). We then settled on two instruments: complexity about the tax system and the kind of service used to honour firms tax obligations. These two instruments must pass these post estimation tests: weak instrument, under identification and over identification test before they can be considered as good instruments (Cameron & Trivedi, 2010).

Measurement of the variables, definition and expected sign

This section presents how the variables used in this study were measured, defined and its expected sign.

Tax Compliance

Tax compliance is the dependent variable used in this study. Tax compliance was measured by computing an index from four questions. Since all the respondents comply with the tax laws because they were all paying their taxes, the objective was to find out the cost they incurred when complying with the tax obligations. Complying with all these in an organized manner gives a minimum of 4 and a maximum of 20 given to firms that filed their tax returns on time, pay them in full and on time. In order to compute the compliance level of taxpayers, fours questions on a scale of 1 to 5 centered on payment, filling, timing and adequacy were post to respondents. These questions were over the past six months, has there been a time your firm was able to pay; over the past six months, has there been a time your firm was able to file tax returns?; Over the past six months, has there been a time your firm was able to honor its tax obligations on time?; Over the past six months, has there been a time your firm was able to pay it tax in full).

Compliance Cost

The European Standard Cost Model (2009) was adopted to compute the compliance cost borne by small taxpayers. The major components of the compliance cost are the internal and external cost of complying with tax regulations. The internal cost consists of the hourly wage of the service provider performing the tax activities, and external cost is the cost of outsourcing external tax service provider. The internal cost is the monetary

value of the time spent by internal tax service provider in meeting tax obligation. This include the travelling time, time spent at the office for recording tax related activities and filling of tax returns. The SCM was used because it only assesses administrative costs. Administrative costs are the costs incurred by business in meeting legal obligations to provide information. Again, the model is not limited to a single tax area, and is theoretically applicable to tax and legislation forms. In addition, the computation also enables segmentation, e.g. when unit costs are projected to differ substantially from one field to another. Based on this model, tax compliance cost was computed as:

$$\mathrm{CC}_i = \sum (ICC_i + XCC_i) \ldots\ldots\ldots\ldots\ldots\ldots\ldots 7$$

Where, CC represents the tax compliance cost, ICC=internal tax compliance cost, XCC =external tax compliance cost, and subscript (i) denote the specific tax under study (Income tax, VAT, and Corporate tax).

The basic formula for calculating either the internal or external costs is:

$$ICC_i \text{ or } XCC_i = Price * Quantity \ldots\ldots\ldots\ldots\ldots\ldots\ldots 8$$

Where price reflects the costs incurred by business and is calculated on the basis of labor costs (internal and/or external) and acquisitions, as well as the time needed to carry out the administrative task which is measured in hours and the quantity determined the number of times per month. The following questions were asked in the process of estimating the cost of compliance: Please tick the service used in preparing, filing and paying records relating to your firm taxes? respondents were asked also to indicate the average time (hours per day and average cost per hour incurred (internal or external services) in filling , preparing and paying of tax related activities.

Tax Knowledge

Twenty-five true or false questions, which centered on general tax knowledge, legal tax knowledge and technical tax knowledge, were used to compute an index for small taxpayers' tax knowledge. The researcher used the following formula to get a cumulative score:

$$Tax\ knowledge\ level = \frac{Total\ score\ of\ each\ question}{Number\ of\ questions\ (25)} x\ 100\%$$

Concerning tax compliance, we expect a positive relationship between tax knowledge and tax compliance.

Perception on Tax rate

Perception on tax rate is a dummy variable. In the data, respondents were asked to indicate how they perceived tax rate to be (high or low). Tax rates have been shown to affect tax compliance (Abdul-Razak & Adafula, 2013; Atawodi & Ojeka, 2012). It is widely believed that high tax rates reduce compliance tax and therefore, the study expects a negative relationship between tax rates and tax compliance.

Tax Audit

According to the data, tax audit is a dummy variable measured as whether tax authorities do audit their tax activities tax audit or not.Intuitively, studies on the relationship between tax audit and tax compliance have produced a positive effect on compliance if firms are audited and negative for otherwise. These studies include Okpeyo et al (2019), Acheampong et al. (2016), Loo et al., (2012), Sia (2008). Hence, the study expects a positive relationship between tax audit and tax compliance.

Perception about Fine Rate

The fine rate represents the penalty that taxpayers pay if they failed to comply with tax law on time. In the data, respondents were asked to indicate their perception on the penalty they faced for not complying with tax laws, whether they perceived it to be high or low. Studies have shown that a high fine rate positively influences tax compliance (Abdul-Razak & Adafula, 2013; Atawodi &Ojeka, 2012; Loo et al.; 2012). With the above claims, we expect a positive relationship between the fine rate and tax compliance.

Experience

Experience represents the age of the business. Age is a continuous variable measured in years based on the time the firm has registered with GRA. Intuitively, studies on the relationship between experience and tax compliance have produced mixed findings; with some revealing that age has positive effect on tax compliance (Palil 2010; McGee,Benk,Ross, & Kılıçaslan, 2012)and others revealing a negative relationship between them (Engida & Baisa, 2014; Al-Mamun,Yasser, Rahman,Wickramasinghe, & Nathan, 2014).

Perception about Government Use of Tax Revenue

Perception about government use of tax revenue in this study is how taxpayers perceive the use of government tax revenue. In the data, respondents were asked to rate their level of agreement on a scale of 1 to 5 where 1 means lowest agreement and 5 means the highest agreement on three statements. The statements were most of the money collected is spent wisely; the money collected is spent on projects that benefit the firm, and the money collected is spent on worthy projects. An index was developed for the variable with a

minimum value of 3 meaning tax revenue are not wisely use and a maximum of 15 indicating tax revenue is widely used by the government. We therefore expect a positive relationship between perception and tax compliance.

Complexity of the tax system

Complexity of the tax system refers to the difficulties inherent in comprehending tax laws. Mulder et al. (2009) and Saad (2010), complexity relates to the obstacles that must be addressed in order to comply with tax legislation. Accordingly, Richard and Sawyer (2014) and Cuccia (2013) argued that complex tax laws reduce taxpayers' compliance with tax laws since taxpayers or business incurred high cost to understand the nature of the tax laws. In this study, complexity of the tax system was derived by summing up rating responses of two (2) relating to the respondents' perceptions on the nature of the Ghanaian tax system from the data.

Kind of service used in honoring tax obligation

The kind of service used in honoring tax obligation just as Dunlop and Radaelli (2016) have described, can be internal or external or both. This implies that, firms that engage the service of external service provider when preparing or filing their returns is likely to have higher compliance burden compared to firms that resort to only internal service. In the data, the kind of service used in honoring tax obligation was measured as a categorical variable where respondents were asked to tick the service used in honoring their tax obligation.

Chapter Summary

This chapter provided details on the research design, data source and type, empirical model and measurement of variables.

CHAPTER FIVE

RESULTS AND DISCUSSION

Introduction

This chapter presents an in-depth analyses and discussion of the results of the study. The descriptive analysis of categorical variables and a summary statistic of continuous variables used in the study were presented. The next section of this chapter entails the computation of compliance cost and the regression analysis of the effect of compliance cost on tax compliance on the various tax handles and the extent to which the effect of compliance cost on compliance differ among business type, geographical location and sex of taxpayer.

Descriptive Statistics of Categorical Variables

Table 1 presents the descriptive analysis of the variables that were used in the study. The frequencies and percentages of the variables were reported. It can be seen that 70 percent of small taxpayers were males and 30 percent were females. About 94 percent of small taxpayer's business are located in the urban areas and 6 percent business are found in the rural areas. In terms of the distribution of small taxpayers across the regions, we observed from Table 1 that 46.28 percent of small taxpayers were located in the Ashanti region, 28.77 percent in Greater Accra region and the remaining 24.95 percent small taxpayers were found in the Northern region of Ghana. It can also be seen that about 58 percent of the business type owned by small taxpayers are sole proprietorship, 11 percent are partnership and the remaining 31 percent have registered as Private Limited Liability companies. Also, we observed that 61% of the total sample perceived tax rate charged by tax authorities to be high and

39% perceived the tax rate to be low.

Table 1: Descriptive statistics of categorical variables

Variable	Frequency	Percentage
Sex Manager		
Male	350	70.42
Female	147	29.58
Region		
Greater Accra	143	28.77
Ashanti	230	46.28
Northern	124	24.95
Firm Structure		
Sole Proprietorship	289	58.15
Partnership	55	11.07
Private Limited Company	153	30.78
Location		
urban	467	93.96
Rural	30	6.04
Educational level of the manager		
None	12	2.41
Primary	10	2.01
JHS/Middle	70	14.08
secondary	223	44.87
Tertiary	182	36.62
Service Used		
Internal	280	56.34
External	155	31.19
Both	62	12.47
Tax Rate		
Low Tax rate	192	38.63
High Tax rate	305	61.37
Tax Audit		
Audited	229	46.45
Not Audited	264	53.55
Fine Rate		
Low Fine rate	69	13.88
High Fine rate	428	86.12

Source: Attobrah (2020)

From Table 1, it can also be seen that 86% of the total sample perceived the penalty for not complying with tax obligation to be high and 14 percent believed otherwise. As presented in Table 1, approximately 54 percent agreed that their tax activities are audited by tax authorities and 46 percent indicated that their tax activities are not audited by tax authorities.

Summary Statistics of Variables

Table 2 presents the summary statistics of the variables that were used for analyzing the objectives of the study. The number of observations, mean, standard deviation, minimum and maximum values were presented.

Table 2: Summary Statistics of variables

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
Tax compliance	497	14.926	4.817	4	20
Tax Knowledge	497	56.012	13.375	12	88
Perception	497	7.66	4.029	3	15
Experience	497	10.472	7.538	1	50
Complexity of Tax System	497	7.575	1.864	2	10
Distance to the tax office	497	36.182	12.010	1	80
Income compliance cost	461	42.845	36.679	5	240
VAT compliance cost	255	34.387	30.460	7.5	300
Corporate compliance cots	175	79.131	67.880	12	465
Total Compliance cost	497	85.298	93.516	5	955

Source: Attobrah (2020)

It can be seen from Table 2 that the mean compliance and standard deviation is approximately 15 and a minimum and maximum value are 4 and 20 respectively. These mean values of tax compliance represent the average compliance level of small taxpayers to the tax system in Ghana. It can also be seen that small taxpayers had a mean score of 56.012 and standard deviation

of 13.375 concerning their knowledge on the Ghanaian tax system. The average perception of small taxpayers on how government use the tax revenue is 7.66 with a standard deviation of 4.029 as presented in Table 2. Experience, which measures the number of years firms had spent in operation, reported a mean of approximately 10.5 years with the minimum year of 1 and maximum year of 50. The perception taxpayers have on the tax system recorded a mean of 7.575 indicating a complex tax system, with a minimum value of 2 and a maximum value of 10 as presented in Table 2. Total compliance cost incurred by small taxpayers had an average value of 85.298 and standard deviation of 93.517. The standard deviation for compliance cost is seen to be higher than the mean showing the existence of possible outliers. Again, the number of minutes spend by small taxpayers before getting to the tax office to pay their taxes on the average is 36 minutes before they get to the tax office with a minimum of 1 minute and a maximum of 80 minutes.

Distance to the Tax Office

Figure 1 presents the average number of minutes small taxpayers spend from their work place to the tax office (travelling time). As shown in Figure 1, we observed that small taxpayers located in the Greater Accra region spend on the average 34 minutes; those in the Ashanti region spend averagely 37 minutes and those in the Northern region spend about 38 minutes as travelling time before they get to the tax office to pay their taxes. Small taxpayers in the Northern region are more distant from the tax office on the average than small taxpayers located in the other regions in this study and this result is not surprising since only two small taxpayer's office are found in the Northern region of Ghana as shown in the data.

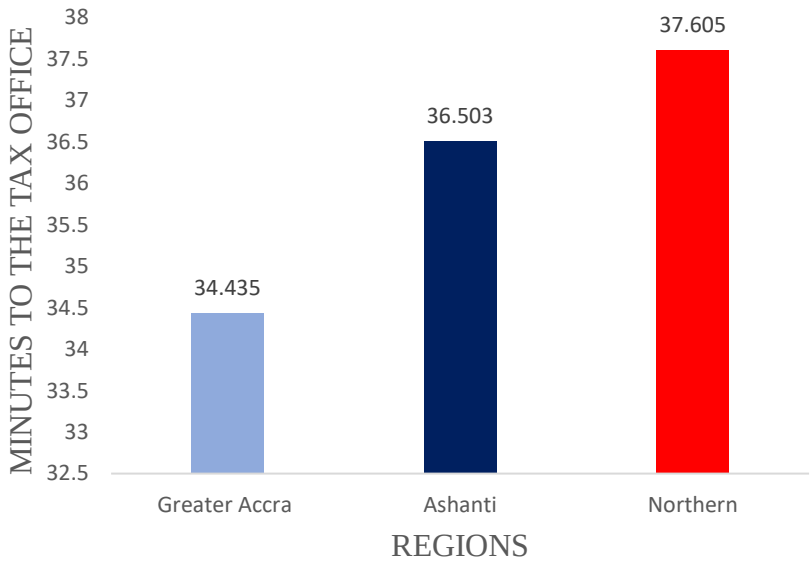

Figure 2: Average Distance to the Tax Office

Source: Attobrah (2020)

Persons Responsible for Tax Compliance Activities

From the data, respondents were asked to indicate the personnel in charge of tax compliance activities and these responses are presented in Figure 2. Out of the total number of respondents, 264 indicated that the tax compliance activities are carried out by the owner, 151 indicated that employees in the firm are responsible for carrying out tax-related activities while 77 respondents also indicated that tax-related activities are carried out by accountants in the enterprises. This, therefore indicates that majority of the tax activities are performed by the owners themselves. This is not surprising, since the survey-sampled small taxpayers is dominated by enterprises recognized as sole proprietors.

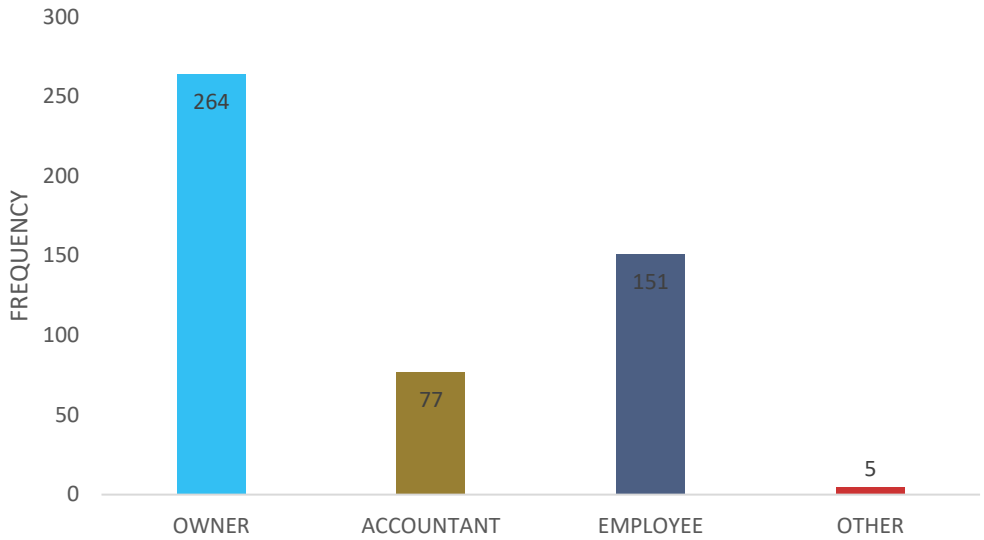

Figure 3: Persons Responsible for Tax Compliance Activities

Source: Attobrah (2020)

Kind of service used to perform tax obligation

Figure 3 presents the results of the kind of service used to perform tax compliance activities by small taxpayers**.** The results indicated that small taxpayers use either internal, external or both internal and external service provider to perform tax activities. It can be seen from Figure 3 that 56.34 percent of small taxpayers use internal service provider in performing their tax related activities, 31.19 percent make use of external service providers and the remaining 12.47 percent use both internal and external service providers in performing activities related to tax. We observed from Figure 3 that majority of small taxpayers used internal service providers to deal with tax related activities as compared to external or both because using internal service provider is seen to be less expensive as compared to using either external or both internal and external service.

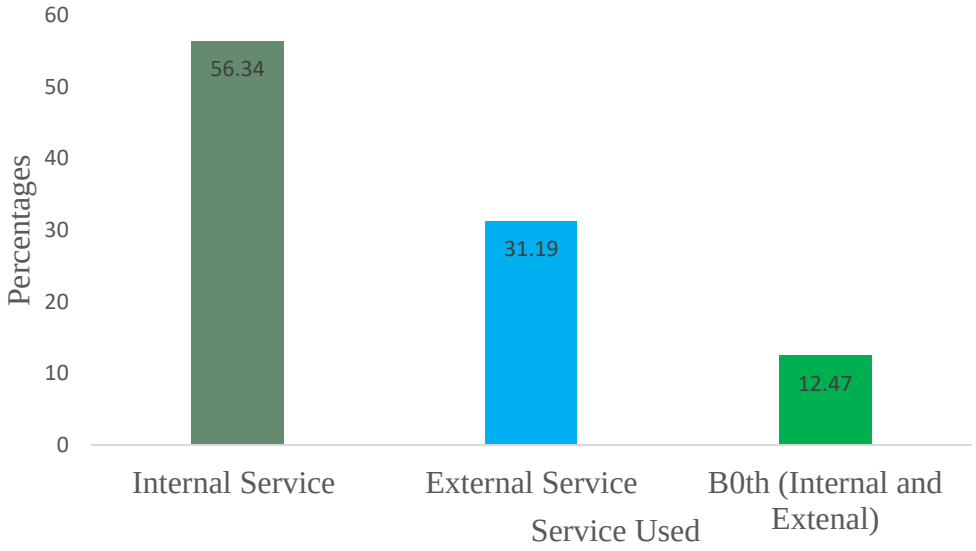

Figure 4: Small taxpayer's service used for tax activities

Source: Attobrah (2020)

Hours spent on tax compliance activities

Table 3 provides information on the monthly hours spent by small taxpayers on tax compliance activities in the study. The hours include travelling time, time spent at the office, time spent to acquire knowledge on the tax system, time spent on recording tax related activities and filling of tax returns. The table indicates that, small taxpayer spends approximately 15 hours on the average on tax compliance activities every month. Breaking compliance cost into various forms of taxes, the highest number of hours a small taxpayer spends on the average is 11 hours on corporate tax activities, 8 hours on income tax and 6 hours on VAT per month. The table further indicates the number of hours used in the various tax activities in terms of internal and external service. It can be seen that on the average 11 hours was used by internal service provider whilst external service provider used 8 hours in every month in preparing corporate tax related activities. The results also

show that external service provider used an hour or more compared to what is been used by internal service providers in income tax activities and 30 minutes more in preparing VAT related activities every month. On the average, this makes a total of 12 hours and 8 hours used by internal and external personnel in tax compliance activities.

Table 3: Average hours spent on tax compliance activities

Variable	**Total hours**			**Internal hours**			**External hours**		
	Mean	Min	Max.	Mean	Min	Max.	Mean	Min	Max
Income	7.748	2	40	6.988	2	24	7.068	3	24
Vat	6.408	2	32	5.928	2	16	5.6	3	16
Corporate	11.812	4	60	11.352	1	9	8.180	4	36
Total	14.635	2	116	12.066	2	80	8.023	3	92

Source: Attobrah (2020)

By comparing the average number of hours spent by small taxpayers either internal or external personnel, it can be concluded that external service provider spends less time as compared to internal service provider when honouring their tax obligations. This can be attributed to the fact that external service providers could be more experienced in the tax system. Again, by observing the average time spent for the categories of taxes under study, corporate taxpayers tend to spend more hours whether internal or external in complying with the tax laws because of how complex the laws that guide the activities of corporate taxpayers are. Again, corporate taxpayers used more external service providers in addition to the internal tax expert compared to the other forms of taxes. These findings are consistent with the results of Makara and Pope (2013); Smulders (2013) who estimate compliance costs of Small business in Botswana and South-Africa respectively.

Internal and External Compliance Cost of Small Taxpayers

This section presents the findings of average internal and external tax compliance cost. As shown in Figure 4, small taxpayers incur an average monthly compliance cost of GH¢50.297 internally and GH¢35 externally. This means that small taxpayers in Ghana used more internal service as compared to employing external tax expert due to the fact the cost of using internal service providers on the average is less than using external service providers. The average compliance cost for both internal and external cost were computed by multiplying the number of hours spent by firm in preparing tax related activities by the amount charged in Ghana cedis per hour. Because the internal personnel use more hours than their external counterparts, the cost for internal tax services providers is seen to be high on the average than their counterpart. The findings of this study support the findings of Smulders (2013).

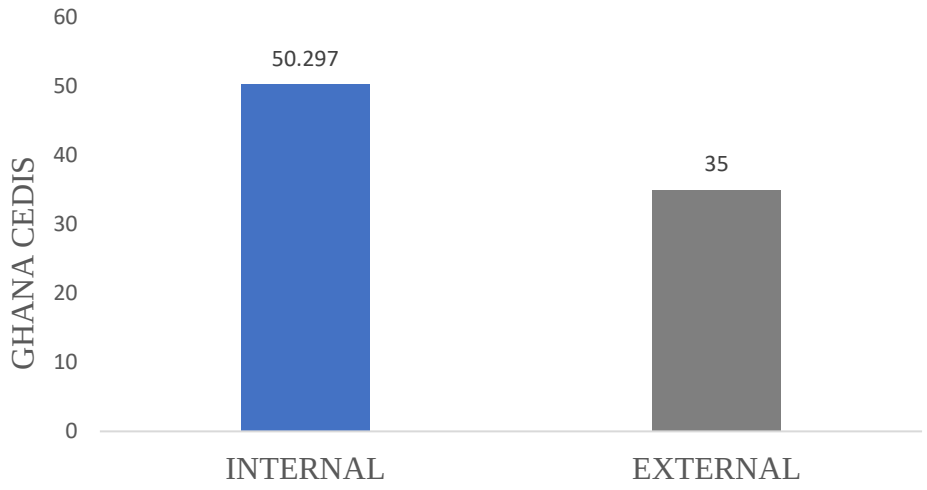

Figure 5: Internal and External Compliance Cost

Source: Attobrah (2020)

Estimation of Tax Compliance Cost

The first goal of the study is to examine the variations in the amount of cost incurred across different tax handles among small taxpayers in Ghana. This computation is necessary because it helps small taxpayers to know on the average the cost, they incur in filling their tax returns. Policy makers like the GRA and the government will be guided by the average compliance cost and formulate policies that will aid in reducing the cost of compliance incurred by small taxpayers. Table 4 provides the average estimates of tax compliance costs for the different tax handles used in the study. When the time reported in step three was converted into monetary value using the hourly wage given by the small taxpayers, the average overall tax compliance costs for small taxpayers of the study is estimated at GH¢ 85.298 per month with observations ranging from GH¢ 5 to GH¢955.

Table 4: Average tax compliance cost of small taxpayers

Variable	Mean GH¢	Min GH¢	Max GH¢
Income Tax compliance cost	42.845	5	240
VAT compliance cost	34.387	7.5	300
Corporate Tax compliance cost	79.131	12	465
Total Tax Compliance Cost	85.298	5	955

Source: Attobrah (2020)

Disaggregating the compliance cost into income tax, VAT and corporate tax, it can be seen from Table 4 that the average compliance costs were estimated as GH¢42.845, GH¢34.387 and GH¢79.131 respectively for every month. The compliance cost however, ranges between GH¢ 5 to GH¢240 for income tax; GH¢ 7.5 to GH¢300 for VAT payers and GH¢ 12 to

GH¢465 for corporate taxpayers as shown in the results presented in Table 4. This indicates that among the tax handles, firms that pay corporate tax or company income tax bear much cost in complying with tax laws compared to the other forms of taxes. This is no wonder because in the works of Coolidge et al. (2009) found that the larger the size of the business, the higher the compliance cost. This is due to the fact that, laws regulating corporate tax are more complex than the other forms of taxes. This average compliance cost incurred by the corporate taxpayers can also be attributed to the fact that they pay on average higher fees to external tax advisors who they engage in tax related activities. Also, because there is a separate tax return required by the GRA each year for corporate tax payers, the degree of regulation on them is much higher than what is imposed on income tax and VAT payers. The findings from this section is consistent with the findings of Noor, Jeyapalan and Uchenma (2014) who conducted a study on the determinants of tax compliance behaviour of corporate taxpayers in Malaysia and concluded that corporate taxpayer's compliance cost is high due to high fees they pay to external tax experts.

Distribution of Tax Compliance Cost by Sex of the Manager

Table 5 presents the average compliance cost incurred by sex of the manager of the firm. The results show that firms managed by male incur more compliance cost as compared to their female counterparts on the aggregated form of taxes. It can be seen on the average that firms managed by males incurred a monthly compliance cost of GH¢ 89.101 while firms managed by female managers incurred approximately GH¢76 as the compliance cost. In the case of income tax, we found that both male and female managers on the

average bear approximately GH¢43 per month as compliance cost with observations ranging from GH¢5 to GH¢240 for males and from GH¢5 to GH¢200 for firms managed by females.

Table 5: *Distribution of Average Tax Compliance Cost Based on Sex of the Manager*

Total Tax Compliance Cost	**Mean GH¢**	**Min GH¢**	**Max GH¢**
Male	89.101	5	955
Female	76.075	5	675
Income Tax Compliance Cost			
Male	42.592	5	240
Female	43.432	5	200
VAT Tax Compliance Cost			
Male	33.656	7.5	300
Female	34.655	7.5	165
Corporate Tax Compliance Cost			
Male	77.158	12	465
Female	91.813	16	360

Source: Attobrah (2020)

As shown in Table 5, the average tax compliance cost in the case of VAT is about GH¢ 34 for firms managed by males and GH¢35 for female-managed firms with variations from GH¢7.50 to GH¢ 300. In the case of corporate tax, the average tax compliance cost for firms managed by males stood at GH¢ 77.158 and firms managed by females have a compliance cost of 91.813. Observing the mean tax compliance cost for the different tax handles, it can be seen that small taxpayers paying corporate tax on the average bear the highest compliance cost burden as compared to the other types of taxes. The variations in the compliance cost between males and females managed firms could be as a result of the fact that females are seen to be more submissive when it comes to complying with laws than their male counterparts (Crosen & Gneezy, 2009).

An independent sample t-test was carried out to assess or verify if there exists any variation in compliance costs between companies managed by males and those managed by females and the results is shown in Table 6. With a p-value of 0.157 obtained, the result indicates that there is no statistical difference in the average compliance cost between male and females at 5percent significance level.

Table 6: Independent sample T-test for the mean compliance between sex of the taxpayer

Compliance Cost	Mean	Standard Error	95% Interval	Confidence	P-value
Sex of taxpayer					
Male	89.101	7.642	60.972	91.178	0.157
Female	76.075	5.014	79.239	98.962	
Combined	85.247	4.196	77.002	93.494	
Difference	-13.026	9.186	-31.075	5.023	

Source: Attobrah (2020)

Regional Distribution of Average Tax Compliance Cost

Table 7 shows the results on regional distribution of average tax compliance cost for small taxpayers. On the average, small taxpayers located in the Greater Accra region incur the highest compliance cost of GH¢86 per month with observations ranging from GH¢10 to GH¢630. For the Ashanti region, the average tax compliance cost is about GH¢82 and with cost varying from GH¢5 to GH¢955. The average tax compliance cost for Northern region is about GH¢97. Disaggregating tax into the various handles, we found that small taxpayers who comply with income tax in the Greater Accra region incur an average tax compliance cost of GH¢48 per month, GH¢37 for Ashanti region and GH¢240 for the Northern region. In terms of VAT compliance cost, it was seen that small taxpayers in the Northern region

incurred an average compliance cost of GH¢38, GH¢37 for those in the Greater Accra Region, and GH¢31 for small taxpayers in the Ashanti region.

Table 7: Distribution of Average Tax Compliance Cost among Regions

Variable	Mean (GH¢)	Min GH¢)	Max (GH¢)
Total Tax Compliance Cost			
Greater Accra	86.309	10	630
Ashanti	81.916	5	955
Northern	96.685	15	340
Income Tax Compliance Cost			
Greater Accra	47.515	10	220
Ashanti	36.713	5	240
Northern	49.145	15	200
VAT Compliance Cost			
Greater Accra	37.362	10	65
Ashanti	30.903	7.5	300
Northern	38.219	10	160
Corporate Tax Compliance Cost			
Greater Accra	100.943	20	345
Ashanti	74.120	12	465
Northern	73.929	20	200

Source: Attobrah (2020)

The results from Table 7 show that small taxpayers that comply with corporate tax in the Greater Accra region on average incurred a tax compliance cost of GH¢100 and GH¢74 for both small taxpayers in the Ashanti and Northern regions. The mean tax compliance cost of GH¢96.685 indicates that small taxpayers in the Northern region bear the highest tax compliance cost compared to the other two regions. A possible explanation could be that, small taxpayers in the Northern region spend more travelling hours on the average going to the tax office due to how distant their workplace is from the tax office. Again, this could be to the fact that small taxpayers in the Northern region on average use more external service because majority of

these firms in this region, as noted in the population census conducted by Ghana Statistical Service (2010), show an average low level of education. To confirm whether there is statistical difference among the means compliance costs of the three regions, a Barlest's test for equal variance was conducted and the results are presented in Table 8.

Table 8: ANOVA test for Compliance Cost among Regions

Source	SS	Df	MS	F	P-value
Between groups	874754.433	2	437377.22	60.82	0.000
Within groups	3643535.75	494	7375.58		
Total	4518290.183	496	9109.46		

Barlest's test for equal variance: Chi2 (2) =204.506 prob>chi2=0.000

Source: Attobrah (2020)

From the results presented in Table 8, with a p-value of 0.000 the null hypothesis is rejected at 5 percent level of significance indicating that there is significant difference in the mean cost of compliance among the regions under study.

Distribution of Average Tax Compliance Cost across Location

Table 9 presents the average tax compliance cost of small taxpayers based their location. Firms that are located in the rural areas incur a compliance cost of GH¢67 and those in urban areas incur a compliance cost of GH¢86 per month. Looking at the disparity in location, the results indicate that on the average, firms that are located in the urban areas on the average incur high compliance cost compared to firms based in rural areas. From the table, the average tax compliance cost in the case of income tax was around GH¢ 42 and GH¢47 for firms located in the Urban and rural areas respectively per month for small taxpayers. The per month compliance cost observed for VAT payers in the urban areas is GH¢34 and GH¢37 for those in the rural areas. For

corporate tax, compliance cost observed from Table 9 for small taxpayers in the urban areas on the average is GH¢81 while those in rural areas incur GH¢48 per month. As seen in the mean tax compliance cost, it can be said that the small taxpayers in the urban areas bear the highest tax compliance cost compared to those in rural areas and this is due to the fact that the opportunity cost of time in the urban areas is relatively higher than that of rural areas.

Table 9: Distribution of tax compliance cost across Location

Variable	Mean GH¢	Min GH¢	Max GH¢
Total Tax Compliance Cost			
Urban	86.405	5	955
Rural	67.225	15	180
Income Tax Compliance Cost			
Urban	42.484	5	240
Rural	48.639	15	130
VAT Compliance Cost			
Urban	33.763	7.5	300
Rural	36.682	10	60
Corporate Tax Compliance Cost			
Urban	80.886	12	465
Rural	48.333	25	90

Source: Attobrah (2020)

To test whether there is a statistically significant difference in the mean values of compliance cost between urban and rural areas, an independent sample T-test was conducted as seen in Table 10. A p-value of 0.027 indicates that there is statistically significant difference between the means of small taxpayer's compliance cost in the urban and rural areas at 5 percent.

Table 10: Independent sample T-test for the mean values between location of the firm

Compliance Cost	Mean	Standard Error	95% Confidence Interval		P-value
Urban	86.406	4.434	77.693	95.118	
Rural	67.225	7.842	51.186	83.264	0.027
Combined	85.247	4.197	77.002	93.494	
Difference	19.181	17.619	15.436	53.798	

Source: Attobrah (2020)

Distribution of Tax Compliance Cost by Business Type

Table 11 presents the average tax compliance cost for small taxpayers in the study according to how they have registered their business with the Registrar General Department. We observed that small taxpayers registered as Sole proprietorship on the average incur a compliance cost of GH¢54 per month, partnership firms incurred GH¢ 74 and Private Limited incurred GH¢147. Again, from the Table 15, sole proprietorship firms incur an average income tax compliance cost of GH¢40 per month, GH¢47 per month was incurred by Partnership firms and GH¢48 per month was incurred by firms registered as Private Limited Company. In terms of VAT, it was observed that Sole proprietorship firms incur an average compliance cost of GH¢27 per month, GH¢30 per month was incurred by Partnership firms and GH¢45 per month was incurred by Private Limited Company firms. From the same table, Private Limited Company firms incur an average corporate tax compliance cost of GH¢ 81.400 per month.

Table 11*: Distribution of Tax Compliance Cost among Business Type*

Variable	Mean GH¢	Min GH¢	Max GH¢
Total Tax Compliance Cost			
Sole proprietorship	54.796	5	470
Partnership	73.568	10	402.5
Private Limited Company	146.967	30	955
Income Tax Compliance Cost			
Sole proprietorship	39.684	5	200
Partnership	47.052	7.5	200
Private Limited Company	47.765	10	240
VAT Compliance Cost			
Sole proprietorship	26.708	7.5	80
Partnership	30.020	8	82.5
Private Limited Company	44.835	8	300
Corporate Tax Compliance Cost			
Private Limited Company	81.400	12	465

Source: Attobrah (2020)

By way of comparison, it can be seen that small taxpayers registered as private limited companies incur the highest cost of tax compliance on the average in relation to the other business types in the sample and this is in line with findings of Hansford and Hasseldine (2012) who concluded that as the size of the business increases, compliance cost too increases. This is due to the fact that, regulations guiding limited liability companies are seen to be more complex than firms registered as sole proprietorship and partnership. Due to the complex nature of tax laws associated with the activities of limited liability companies, they tend to spend more time on complying with the tax system.

Also, because there is a separate tax return required by the GRA each year from firms registered as limited liability, the degree of regulation is much higher than that imposed on sole proprietorships and partnership firms. These findings are in line with that of Makara and Pope (2013 who in their study concluded that small business registered as limited liability companies incur high compliance cost compared to the other forms of business. In order to

make a reliable and valid statement that there exists a significant difference in the mean compliance costs among the business types, Barlest's test for equal variance was conducted and the results are presented in Table 12. As shown in Table 14, the Barlest's test for equal variance indicates that there are statistically significant differences among the average compliance costs of the three-business type at 5% significance level.

Table 12: ANOVA Test for mean compliance cost among Business Type

Source	SS	Df	MS	F	P-value
Between groups	858321.5	2	429160.7	60.86	0.000
Within groups	3483530.97	494	7051.682		
Total	4341852.37	496	8753.735		

Barlest's test for equal variance: Chi2 (2) =202.207 prob>chi2=0.000

Source: Attobrah (2020)

Small Taxpayers Perceptions on Tax Compliance Cost

From the data, respondents were asked to indicate how they perceived the following variables to increase their compliance cost and the results are presented in Figure 5.

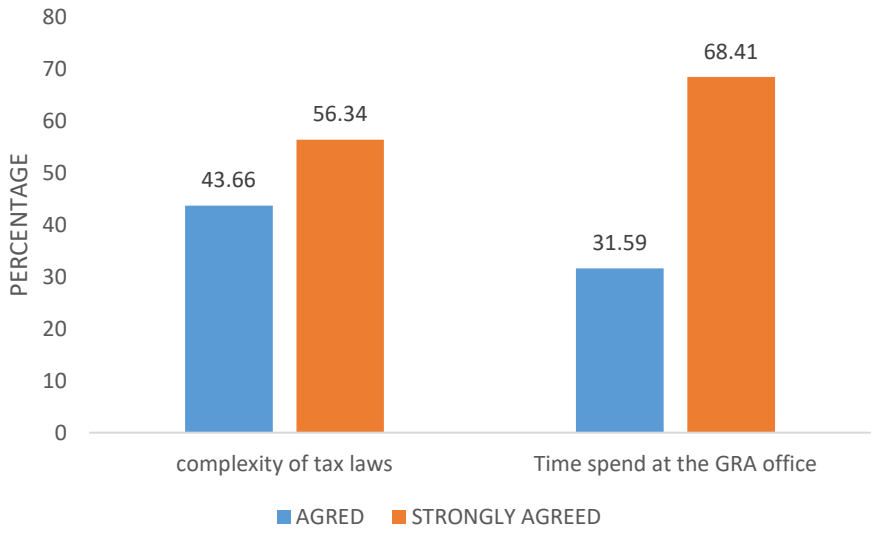

Figure 6: Business taxpayers' perceptions on tax compliance cost

Source: Attobrah (2020)

From the results presented in Figure 5, we observed that small taxpayers perceived the nature of the tax laws to be complex and about 56 percent of them strongly believed that complexity of the tax laws influence compliance cost**.** Again, small taxpayers perceived that they waste a lot of time when paying their taxes at the Ghana Revenue Office and therefore, they believe time spend to be a factor that also influence their tax compliance cost.

Effects of Compliance Cost on Tax Compliance

The second objective of the study was to estimate the effect of compliance cost on tax compliance for the different tax handles among small taxpayers in Ghana. Analyzing the effect of compliance cost incurred by small taxpayers on tax compliance is very important since it will aid policy makers in reviewing tax laws. Hence, Table 13 presents the findings of the various econometric results (OLS and 2SLS) showing the effect of compliance cost on tax compliance of small taxpayers among the different tax handles. Endogeneity test was conducted using the Wu–Hausman test with robust standard errors. Wooldridge (1995) indicated that a robust regression-based test for models with robust standard errors and significant at 5 percent significance level will lead to a rejection of the null hypothesis that compliance cost is exogenous. With P-value of 0.018 reported in Appendix B, we reject the null hypothesis that compliance cost is exogenous. This provides a basis for our treatment of compliance cost as an endogenous variable.

Moreover, to correct the endogeneity associated with compliance cost; we used complexity of the tax system and the kind of service used in tax compliance as instruments. These variables were used as instruments because they are seen to have a direct influence on compliance cost and not on tax

compliance itself. Intuitively, the complexity of the tax system variable used as instrument may be argued to have direct effect on tax compliance, but it will not have passed as an instrument if it does have direct effect on tax compliance. As shown in the Appendix E, complexity of the tax system was seen not to have a significant effect on tax compliance in the OLS model. With the insignificant of the complexity of the tax system confirmed, we included the variable as an instrument because complexity of the tax system plays a role influencing compliance cost.

A weak instrument test was conducted using the Cragg-Donald Wald F-statistic of the first stage regression. As suggested by Staiger and Stock (1994) that the null hypothesis should be rejected if the Cragg-Donald Wald F-statistic is greater than Stock Yogo value at 10 percent and accept the null if otherwise. Relying on the Cragg-Donald Wald F-statistic of 27.348 presented in Appendix C leads to a rejection of the null hypothesis that the instruments are weak. For Over- identification/valid instruments test, we relied on Wooldridge's (1995) score test of over identifying restrictions using a p-value of 0.085 due to robust standards in our model. Based on the score test, we fail to reject the null hypothesis of valid instruments at a 5 percent. Having justified the conditions of the use of those instruments, the 2SLS technique was used to estimate the parameters of the variables used in the model and preceded with the discussions of the results.

Table 13: Effect of Compliance Cost on Tax Compliance

	OLS				2SLS			
VARIABLES	Tax Compliance				Tax Compliance			
LnIncome Cost	-0.479*				-2.753***			
	(0.281)				(0.799)			
LnVAT Cost		-1.167***				-2.847***		
		(0.313)				(0.865)		
LnCorporate cost			-1.618***				-2.422***	
			(0.180)				(0.803)	
Lncompliance cost				-5.490***				-10.043**
				(0.618)				(4.647)
Tax knowledge	0.055***	0.101***	0.052***	0.147***	0.069***	0.110***	0.041**	0.179***
	(0.016)	(0.017)	(0.016)	(0.040)	(0.0172)	(0.018)	(0.019)	(0.044)
Fine Rate	2.086***	3.321***	3.590***	6.229***	2.084***	3.035***	2.861**	6.499***
	(0.659)	(0.874)	(1.056)	(1.023)	(0.643)	(0.779)	(1.208)	(1.6597)
Experience	-0.041	-0.001	-0.002	-0.118	-0.023	-0.007	-0.008	-0.119
	(0.064)	(0.068)	(0.047)	(0.158)	(0.076)	(0.080)	(0.063)	(0.191)
Exp-Square	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.003
	(0.002)	(0.002)	(0.001)	(0.004)	(0.002)	(0.002)	(0.001)	(0.005)
Tax rate	-2.521***	-1.285**	-1.224***	-11.306***	-2.249***	-1.199**	-0.992**	-12.127***
	(0.424)	(0.503)	(0.412)	(1.181)	(0.468)	(0.530)	(0.450)	(1.207)
Perception	0.206***	0.300***	0.076	0.439***	0.204***	0.279***	0.039	0.393**
	(0.061)	(0.061)	(0.052)	(0.154)	(0.061)	(0.070)	(0.067)	(0.155)
Tax Audit	1.264***	0.941	1.226	2.483**	1.815***	1.063*	0.259	3.776***
	(0.460)	(0.572)	(1.030)	(1.077)	(0.504)	(0.554)	(1.712)	(1.332)
Constant	10.445***	8.637***	11.962***	-7.520*	17.078***	13.797***	16.817***	5.512
	(1.613)	(1.737)	(1.509)	(3.905)	(2.725)	(3.053)	(4.979)	(7.047)
Observations	461	249	171	492	461	249	171	492
R-squared	0.191	0.371	0.787	0.420	0.097	0.308	0.757	0.381

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source: Attobrah (2020)

The coefficients of compliance cost among the different tax handles presented in Table 13 in the OLS model is inefficient in explaining the actual effect of compliance cost on tax compliance because of the endogenous nature of compliance cost. The effect of compliance cost on tax compliance under the OLS is lower compared to the effect reported under 2SLS estimation across all the models. Essentially, using OLS does not have the best linear predictions, because there are downward biases with these results as a result of endogeneity, corrected using the Two-Stage model. Our findings from Table 13 indicate that the coefficient of the compliance cost was seen to be negative and statistically significant at 5 percent level of significance in all the models. This implies that a cedi increase in small taxpayers' compliance cost will lead to reduction in their compliance to the tax laws by 0.027 for Income compliance model, 0.028 for VAT compliance model, 0.024 for the corporate tax compliance model and 0.1 for the full model under the 2SLS estimation result column presented in Table 13. This is as a result of the fact that as the amount of money spent (monetary value of the time spend on tax obligation) by small taxpayers in complying with the tax laws increases, it discourages their compliance with the tax laws. This result is also due to the fact that, laws regulating tax compliance are more complex and difficult to be understood. The complexity of the laws guiding taxpayers make them incur more cost of compliance through spending more time to understand and file tax returns. These results are consistent with other studies (Oteki, & Ezekiel 2014; and Kuug, 2016) who in their works concluded that tax compliance cost significantly reduces tax compliance. We again found in this study that tax

compliance costs significantly influence tax compliance in its disaggregated form.

One other important variable that is critical in determining tax compliance is taxpayers' knowledge on the tax system. As presented in Table 13, an increase in small taxpayers' knowledge score as measured in the data on the tax system leads to an increase in tax compliance level by 0.069, 0.110, 0.041 and 0.179 for income tax, VAT, Corporate tax and full model respectively. This is because, as small taxpayers gain more knowledge on the tax system, it will increase their understanding of the tax and may not need to hire any external tax expert when dealing with tax related activities and thereby reducing their compliance cost. Therefore, educating taxpayers to understand the tax laws will lead to a positive and significant effect on their ability to comply with the tax laws. By comparing the coefficients across the various tax handles, an increase in small taxpayers' knowledge on the tax system leads to an increase tax compliance for VAT more than Income and Corporate taxpayers as presented in the 2SLS estimates in Table 13. The findings of this study are in line with that of Palil (2010), Mukasa (2011), Nsubuga et al., (2017), and Bruce-Twum (2014) who found that a significant positive relationship exists between tax knowledge and tax compliance but in contrast to Wahabu (2017), who argued that tax knowledge has no significant impact on tax compliance.

Again, the coefficient of fine rate is positive and statistically significant at 1 percent indicating that as small taxpayers perceive the fine rate on tax avoidance to be high, their tax compliance will be high compared to those who perceive the fine rate to be low. This is reported in the

disaggregated and aggregated model of the 2SLS estimates presented in Table 13 with coefficients of perceived high fine rate to be 2.084, 3.035, 2.861 and 6.499 for income, VAT, corporate and the total tax compliance models. This means that higher fines and sanctions encourage small taxpayers to comply with their tax obligation rather than reducing fines and sanctions for non-compliance. This finding is in line with what was found in the studies of Acheampong et al. (2016); Kuug (2016) and Okpeyo et al (2019) who in their studies indicated that there is a positive significant effect of fine rate and the level of tax compliance.

From the results presented in Table13, we also observed that as taxpayers perceive tax rate to be high, their compliance will reduce by 2.449, 1.199, 0.9942 and 12.127 for income, VAT, corporate and the aggregated tax respectively as shown in the 2SLS estimates at 1 percent significance. These results can be attributed to the fact that as taxpayers perceive the rate of tax on their activities to be high, they may tend to invade taxes instead of paying higher rates as indicated in previous works (Abdul-Razak & Adafula, 2013; Atawodi & Ojeka, 2012; Okpeyo et al. 2019). By comparing the results for the various tax handles under study, we observed that a perception of higher tax rate significantly reduces the compliance of income taxpayers more than VAT and Corporate taxpayers.

The results form Table 13 revealed that as small taxpayers perceived the use of government tax revenue wisely, their compliance also increases by 0.204, 0.279, 0.039 and 0.393 respectively for income, VAT, corporate and total tax compliance under the 2SLS model. Even though, it was not statistically significant for small taxpayers who comply with corporate tax

under the 2SLS but it was significant for the other models. The reason for a positive and significant results is that small taxpayers have high responsive to what the government spends it tax revenue on. Based on the results of the study, perceptions of taxpayers on government usage of tax revenue are potentially important in determining taxpayers' compliance which is in line with Chebusit et al., (2014). That is, as small taxpayers perceived the use of government tax revenue to be wisely used on project that benefit them, their compliance also increases.

We also observed that as tax authority increase their probability of detecting non-compliance, small taxpayers' compliance with tax obligations also increases by 1.815, 1.063, 0.259 and 3.776 under the 2SLS column respectively for Income, VAT, Corporate and the full model as compared to small taxpayers who are not audited. This means that as the activities of small taxpayers are audited by the tax authorities frequently, small taxpayers' compliance also increases. As presented in Table 13, it can be seen that as small taxpayers who are routinely audited by the revenue authority are more likely to comply more as compared to small taxpayers who are not audited as noted in the works of Acheampong et al. (2016) and Loo et al., (2012). Though corporate tax was not statistically significant, but in the other tax handles, it can be concluded that firms being audited has a positive and significant effect on tax compliance.

Even though, having experience in doing business might be advantageous in terms of their contribution to compliance in the country as we observed in Table 13, but are not statistically significant. Based on the estimates of the 2SLS presented in Table 13, the age of the firm which

measures the experience of the firm in doing business and being involve in tax related activities is likely to increase small taxpayers' compliance with tax laws. Age was seen to be negative and insignificant in determining tax compliance. Even though, the experience variable proxy by age is seen not to be significant, it gives an indication that experience beyond a certain threshold will increase the tax compliance. Thus, as the small taxpayers' number of years of doing business increases by a year, at the initial stage their compliance decreases but increases as they continue to grow beyond a certain age. Based on the 2SLS findings, experience of a business has an inverted-U relationship with tax compliance level.

Effects of Compliance Cost on Tax Compliance among Business Type, Geographical Location and Sex of the Taxpayer.

The third objective of the study was to examine the extent to which the effect of compliance cost on tax compliance differs among geographical location, type of business and sex of the taxpayer. The findings in Table 14 indicate that the effect of compliance cost on tax compliance vary in terms of where the business is located, how the business is registered with the Ghana Revenue Authority, and who manage the business. In terms of how small taxpayers have registered their business to operate, a cedi increase in small taxpayer's compliance cost will lead to reduction in their tax compliance by 0.170 for small taxpayer registered as Sole proprietorship, 0.156 for Partnership, and 0.132 for Private Limited Companies.

Even though, the coefficient for small taxpayers registered as Partnership is insignificant but the effect of compliance cost on tax compliance across the various business types decreases as the compliance cost

also increases. As presented in Table 14, compliance of firms registered as sole proprietorship decreases more than the other business types as compliance cost change by a cedi and this is consistent with findings from the works of Shepard, Crain and Beck (2011). The underlying force explaining this differential cost effect on compliance is the economic phenomenon term as economies of scale. Thus, many of the costs associated with tax compliance are fixed costs; that is a firm with a smaller number of employees incur averagely the same expenses as business with high number of employees. For instance, in Private Limited Companies business, these fixed costs of compliance are spread over a large revenue, output and employees base which results in lower cost per unit of output as the business size increases.

Also, the area in which the small taxpayers operate their business have a significant effect of compliance cost on tax compliance. As shown in Table 14, a cedi increase in the compliance cost will have effect on tax compliance of small taxpayers located in the urban areas than those located in the rural areas by 0.006. Even though the coefficients of compliance cost estimates for business managed by a male is higher than a business managed by female but it is not statistically significant. This implies that the effect of compliance cost on compliance does not matter whether the sex of the taxpayer is male or female as presented in Table 14.

Table 14: The Effect of Compliance Cost on Tax Compliance among Business Type, Location of Business and Sex of the Taxpayer

	Business Type			**Location**		**Sex**	
VARIABLES	Sole Proprietorship	Partnership	Private Liability Company	Urban	Rural	Male	Female
lnComplianceCost	-17.026***	-15.580	-13.185*	-9.800**	-9.250*	-12.927	-6.528
	(5.613)	(14.401)	(7.893)	(4.787)	(5.366)	(8.070)	(4.753)
Tax Knowledge	0.283***	0.156	0.170	0.174***	0.276***	0.154*	0.206**
	(0.093)	(0.184)	(0.145)	(0.053)	(0.098)	(0.085)	(0.099)
Fine Rate	6.819**	11.237	9.434	5.602***	11.729***	5.765*	4.533
	(2.840)	(8.089)	(7.228)	(2.094)	(3.843)	(3.026)	(2.929)
Experience	-0.325	-0.543	-0.538	-0.260	-2.269**	0.188	0.271
	(0.402)	(1.493)	(0.417)	(0.255)	(1.107)	(0.303)	(0.511)
Expe_Square	0.019	0.014	0.0145	0.002	0.097**	-0.004	0.005
	(0.013)	(0.059)	(0.0121)	(0.007)	(0.045)	(0.009)	(0.018)
Tax Rate	-8.122***	-12.195**	-3.083	-10.578***	-1.672	-9.539***	-10.975***
	(2.406)	(5.389)	(5.009)	(1.790)	(4.869)	(2.771)	(2.382)
Perception	0.299	0.082	0.838	0.065	0.057	0.430	0.734**
	(0.304)	(0.785)	(0.622)	(0.265)	(0.750)	(0.443)	(0.321)
Tax Audit	2.496	5.436	2.673	5.077***	-0.096	7.026***	2.132
	(2.231)	(5.328)	(6.391)	(1.595)	(3.004)	(2.399)	(2.361)
Constant	67.028***	92.575	72.381*	50.964***	-35.948	66.990*	32.050*
	(18.411)	(85.849)	(40.691)	(19.296)	(28.657)	(36.005)	(16.592)
Observations	285	55	152	462	30	343	149

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source: Attobrah (2020)

Chapter Summary

This chapter presented the empirical results of the study. This include the descriptive and summary analysis of the variables used in this study. Again, some post estimation tests were conducted. Average compliance cost was computed using the Standard Cost Model for the different tax handles under study. In addition, the effect of compliance cost on tax compliance and the extent of this influence on compliance across business location, business type and sex of the taxpayer was examined using the 2SLS estimation method. The results showed that tax compliance cost statistically decreased small taxpayers' compliance across the various tax handles. Variables like tax knowledge, high tax rate, fine rate, tax audit and perception of government use of tax revenue were also seen to increased small taxpayer's compliance level. Again, the findings also indicate that the effect of compliance cost on compliance vary among business type and geographical location of the business.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter provides a summary of the research findings on compliance costs and tax compliance among small taxpayers in Ghana. It also includes significant conclusions drawn from the study, and relevant recommendations derived from the analysis of the data that are made to aid in policy direction towards reducing compliance cost and increasing small taxpayers' compliance to the tax system in Ghana. The suggestions for future research are also captured in this chapter.

Summary

Tax compliance cost has been a major challenge that reduces small taxpayers' compliance to tax payment in Ghana as shown in the previous chapter. The first objective of the study aimed at computing the average tax compliance cost incurred by small taxpayers in Ghana for the various tax handles under study. The Standard Cost Model was the methodology adopted to estimate tax compliance cost incurred by small taxpayers in Ghana. The outcome of the study indicates that on the average small taxpayers spend about GH¢85 as the overall tax compliance cost every month. Among the different tax handles under study, corporate taxpayers were seen to incur an average compliance cost of GH¢79.131, GH¢42.845 for income taxpayers and GH¢ 34.387 for VAT payers. The sample T-test and ANOVA results show that, compliance cost varies across business type and geographical location. Also, analysis of the distribution of the compliance cost across regions and business types indicates that, small taxpayers in the Northern region of Ghana and those

operating as Private Limited Companies were seen on the average to bear more compliance cost as compared to their counterparts. Another important outcome of this research is that small taxpayers strongly perceived complexity of tax laws and the time they waste at the GRA office when paying their taxes as drivers of compliance cost.

The second objective of the study was to examine the effect of compliance cost on tax compliance across the various tax handles. Unlike previous studies that have treated compliance cost as exogenous, this study treated compliance cost as endogenous and employed the Two–Stage Least square estimation technique which permits the use of complexity of the tax system and the kind of service used to honour tax obligation as instrument to correct the endogeneity problem. From the 2SLS estimation results discussed in the previous chapter, the study finds strong support for the argument that tax compliance costs significantly reduce small taxpayers' tax compliance and was seen to be significant in the all the models. In addition, tax knowledge, tax rate, tax audit, perception about the use of government tax revenue and fine rate used as other explanatory variables were also found to be significant factors that influence small taxpayers' tax compliance.

Finally, this study analyzed the effect of compliance costs on small taxpayers' tax compliance in terms of business type, location and sex of the taxpayer. The decision was to examine the extent to which the effect of compliance cost on small taxpayers' tax compliance vary across how they choose to register their business; the location they operate the business and the sex of the taxpayer. As presented in Table 18, the outcome of the 2SLS estimation coefficients indicate that, the effect of compliance cost on small

taxpayers' tax compliance vary across business type and location of the business but not sex of the taxpayer. We also observed that small taxpayers registered as Private Limited Companies on the average bear the least cost effect when compared to the other business type due to economies of scale they face.

Conclusions

Our survey findings indicate that small taxpayer compliance cost on the average for a month was GH¢85 and it ranges from GH¢5 to GH¢955. Furthermore, it has been established that compliance cost varies across the different tax handles and are relatively high on the average for corporate taxpayers compared to the taxpayers. Also, compliance cost was seen to be significant and has a reducing effect on tax compliance across all tax handles and the extent of it influences differ among business type and location of the business.

Recommendations

Based on the findings, I therefore recommend that the Domestic Tax Revenue Division (DTRD) of the GRA should introduce programs such digital payment systems and online tax payment technology must gear towards making the tax laws more simplifier for small taxpayers.

Again, the DTRD should frequently organize workshops and seminars to educate taxpayers on the tax laws so as to equip taxpayers with the requisite skills and knowledge to be able to understand the tax laws.

Moreover, the management and staff of Ghana Revenue Authority should frequently audit the activities of taxpayers so as to encourage them to obey their tax obligation.

Lastly, government should also be transparent in the use of tax revenue so as to win the confidence of small taxpayers.

Suggestions for Future Research

Having come this far with the study taking into account the methods of analysis, the following suggestions are made for future researchers. Future studies should consider collecting data on Medium and Large taxpayers so that the results can be compared. Again, future studies should consider taking into account how the compliance cost can be disaggregated so as to know which components actually influence the cost of compliance among small taxpayers.

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APPENDICES

APPENDIX A: Correlation Matrix

	TC	TCC	TK	SU	Com	P	Ex	TR	TA	FR
TC	1									
TTC	0.442	1								
TK	0.282	0.2188	1							
SU	-0.038	0.321	-0.003	1						
Com	0.165	0.006	-0.017	-0.167	1					
P	0.0193	-0.091	-0.098	-0.012	-0.020	1				
EXP	-0.139	-0.162	-0.107	-0.027	-0.020	0.1684	1			
TR	-0.489	-0.203	-0.191	-0.030	-0.018	0.1	0.0819	1		
TA	0.023	-0.072	0.0113	0.175	0.479	-0.052	0.065	0.075	1	
FR	0.243	0.075	0.026	-0.06	0.258	0.040	0.041	-0.163	0.165	1

Source: Attobrah (2020)

APPENDIX B: Tests of endogeneity

Variable	R-Square	Adjusted R-square	Partial R-Square	F-Statistic Value	P-Value
lnTax compliance cost	0.257	0.243	0.145	27.348	0.018
Income compliance cost	0.215	0.199	0.143	25.039	0.001
VAT Compliance cost	0.184	0.154	0.146	17.33	0.026
Corporate Compliance cost	0.360	0.323	0.043	13.73	0.073

Source: Attobrah (2020)

APPENDIX C: Weak Instrument Test

2SLS relative bias	critical value	5%	10%	20%	30%
		13.91	9.08	6.46	5.39
Stock Yogo value		10%	15%	20%	25%
2SLS SIZE of 5% Wald test		22.30	12.83	9.54	7.80
LIML size 5% Wald test		6.46	4.36	3.69	3.32
Full model	27.348				
Income tax model	25.89				
VAT MODEL	23.33				
CORPORATE MODEL	22.73				

Number of endogenous regressors: 1 Number of excluded instruments: 3

Source: Attobrah (2020)

APPENDIX D: Linear Regression

Tax Compliance	Coefficient.	Standard Error	t-value	p-value	Sig
Lncompliance cost	-1.659	0.652	-2.54	0.011	**
Complexity	0.654	0.455	1.44	0.151	
External Service	-1.763	1.216	-1.45	0.162	
Internal and External	2.033	1.897	1.07	0.284	
Tax Knowledge	0.205	0.041	5.01	0.000	***
Fine rate	6.221	1.387	4.48	0.000	***
Experience	0.165	0.163	1.01	0.314	
Experience Square	0.002	0.004	0.44	0.663	
Tax rate	-12.088	1.184	-10.21	0.000	***
Perception	0.212	0.166	1.27	0.203	
Tax Audit	4.531	1.173	3.86	0.000	***
Constant	16.497	4.444	3.71	0.000	***

Mean dependent var	27.866	SD dependent var	15.051
R-squared	0.375	Number of obs	492.000
F-test	32.043	Prob > F	0.000
Akaike crit. (AIC)	3855.682	Bayesian crit. (BIC)	3906.064

*** *p<0.01*, ** *p<0.05*, * *p<0.1*

Source: Attobrah (2020)