



**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
MBA PROGRAM**

**TAX AUDIT EFFECTIVENESS IN ADDIS ABABA, ETHIOPIA:
TAX AUDITORS' PERCEPTIONS IN ETHIOPIAN REVENUES AND
CUSTOMS AUTHORITY (ERCA) EASTERN ADDIS ABABA BRANCH
OFFICE**

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ID: SGS/0114/2007A**

**JUNE 2016
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**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
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DEDICATION

I dedicate this dissertation to my sister Agar Baye, my loving wife, and my lovely kids.

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Zenegnaw Abiy (PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Name

St. Mary's University, Addis Ababa

Signature

June, 2016

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

Advisor

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Signature

June, 2016

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June, 2016
Kibret Tewabe
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LIST OF ABBREVIATION/ACRONYMES/

ANOVA	Analysis of Variance
ASYCUDA	Automated System for Customs Data Base
EDU	Education
ERCA	Ethiopian Revenues and Customs Authority
EXP	Experience
IS	Information System
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Square
SIGTAS	Standard Integrated Government Tax Administration System
SPSS	Statistical Package for the Social Science
TIT	Tax Infringements Tracking
TL	Tax Legislation
TR	Training
VIF	Variance Inflating Factor

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ABSTRACT

The main purpose of this study is to investigate the tax audit effectiveness in Addis Ababa City on Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office tax auditors' perceptions. The researcher used the ability of tax audit staffs to track tax infringements as a measure of tax audit effectiveness. In light of this objective the study adopted explanatory research design and quantitative method of research approaches to test a series research hypothesis. Eighty nine structured questionnaires were constructed and distributed to the total population of the tax audit staffs, who are working in ERCA Eastern Addis Ababa Branch Office tax audit department. Data was then analyzed using Pearson's correlation, multiple regression analysis and descriptive statistics quantitatively; and a mixed research approach was employed. The results showed that there is positive and statistically significant relationship between information system, experience and training with tax audit effectiveness. But tax legislation is negatively and statistically significant relationship with tax audit effectiveness. The results of the study calls for the direct policy intervention, including simplification of tax legislation, and better training of tax audit staffs in the use of information systems.

Key words: Information systems, Tax audit, Tax infringements, Tax legislation

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

For provision of basic facilities and other social services, governments undertake huge public expenditures like education, health, infrastructures on behalf of their citizens. Thus governments require funds in order to meet up with these responsibilities. Taxation is one of the most important elements in managing national income in both developed and developing countries. Tax therefore, is defined as a compulsory levy, imposed by government or other raising body, on income, expenditure, or capital assets, for which the taxpayer receives nothing specific in return (Lymer & Oats, 2009). These levies are made on personal income such as salaries, business profits, interests, dividend, discount or royalties to obtain revenue. The main purpose of taxation is generating revenue for the public in order to accommodate governments' expenditure (Al Zakri, 1995). Countries have been trying to implement and establish dynamic tax system that could not only ensure the public revenues, necessary for the economic state functioning, but could also enhance citizens' trust towards governments in terms of fairness in the distribution of income tax burdens. Since there may not be voluntary compliance of tax payers, tax audit is very important to collect the expected revenue.

An audit is an independent examination of an entity by an auditor, who delivers reports about facts observed to the best of her/his knowledge. Audit is exercised to hold an organization accountable for their deeds. Audits are effective if they are strong enough to transparently highlight performance lags of government entities. An audit can be made effective if problems and issues of auditors are resolved. Auditing is the process of examining financial statements of an organization independently and passes opinions on the findings in accordance with the auditors' terms of engagement and compliance with statutory regulation and professional requirements (Daniel, 1999). According to OECD (2006), a tax audit is an examination of

whether a taxpayer has correctly assessed and reported their tax liability and fulfilled other obligations.

According to Drogalas et al. (2015), auditing of taxpayers is defined as the activities conducted by the tax authorities in order to detect whether there is under reporting of tax basis. Tax audit is as a process of assessing the level of taxpayers that have produced financial statements in compliance with the sated tax rules and regulations and whether the taxpayers have accordingly declared the tax payables as per the tax legislations. Lastly, the accuracy of the declared tax documents should be assessed and the tax auditors confirm the amount of tax liabilities that will be paid by taxpayers.

To collect the necessary tax revenue from the taxpayers, countries should design different mechanisms of tax collection. Effective tax audit is one of the mechanisms that help to collect the estimated governments' revenue from tax. Of course, there are factors that affect the tax audit effectiveness such as tax legislation, information system, education level of the tax auditors, experiences of tax auditors, and the trainings that are given to tax auditors (Drogalas et al. 2015). However little research has focused on the effectiveness of tax audits in general and in Ethiopia in particular; therefore, this study emphasis on the issues that affect the effectiveness of tax audit in Addis Ababa tax auditors' perceptions in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office.

1.2. Statement of the Problem

Generating revenues and increasing tax bases of any government depends on the properly designed tax administration system of the countries. As Bird (2008) noted, it is unquestionable to ensure that the revenue collected from tax should be raised in efficient and effective manner. Governments raise revenue for their expenditures through taxation as a main source of income, but several means of revenue generation are set by governments Mousa (2005). Since tax is the main source of revenue, most governments practice to use taxation so that generating most of their fiscal requirements. The proper use of enforcing tax laws, examining taxpayers systems and financial documents by the tax auditors for the selected business companies are crucial to

check whether the taxpayers declared correctly their tax liabilities through tax audit. It may include cross checking of taxpayer's records with those of taxpayer's suppliers or with other government departments and agencies source of information and its effectiveness and efficiency must be guaranteed by means of proper procedures and application of modern audit tools and techniques (OECD, 2006). Auditors do not only depend on the documents and information that is delivered by audited taxpayers but also check indirectly other organizations' /parties'/ documents and information which have relations in the business transaction activities with the audited taxpayers. This technique helps to the auditors to get additional information and to check the reliability of the information and documents delivered by the auditing taxpayers.

A tax audit is one of the most sensitive contacts between the taxpayer and a revenue body, the presence of an auditor in a taxpayer's private dwelling or business premises, coupled with the exploration of private and business issues and the gathering of information from taxpayers' books and records, or just the disruption of day-to-day workflow, represents a burden on the taxpayer (OECD, 2006). Tax audit helps revenue authority achieving its objectives, and ensuring the fiscal health by means of indirectly driving voluntary compliance and directly generate additional tax collections, both of which help tax authorities to reduce the tax gap between the tax due and tax collected.

Among the factors that affect the collection of tax revenue of a country, tax audit effectiveness plays a vital role on the side of tax authority (Drogalas et al., 2015; Elias, 2014). In Ethiopia the main domestic source of revenue is taxation. But according to Getaneh (2011), in his research the collection of revenue from taxes is affected by effective tax audit activities of Ethiopian Revenues and Customs Authority (ERCA). As empirical literatures show, in tax authorities tax audits are not effective due to different factors in Greek Firms (Drogalas et al., 2015). And also Elias (2014) in his research used the independent variable of audit quality, organizational setting, top management support, audit attributes and organizational independence in Bahir Dar City and concluded that tax audit effectiveness is affected by these variables. In addition to this, Mihret and Yismaw (2007) in their cased study of internal audit effectiveness on an Ethiopian public sector described that the above variables listed by Elias affect the internal audit effectiveness. However, to the best of the researcher's knowledge virtually no study has been made to assess

the tax audit effectiveness on the tax auditors' perceptions in Ethiopia particularly in Addis Ababa city. So the researcher assessed the tax audit effectiveness from the auditors' side by considering similar variables that are applied in Greek firms, and which are different from Elias (2014) used in Bahir Dar City.

The distinction between the two papers is the variables they used in which Drogalas et al. (2015) used the information system, tax legislation, education, experience and training as independent variables that affect the audit effectiveness whereas Elias (2014) used audit quality, organizational setting, top management support, audit attributes and organizational independence as factors affecting tax audit effectiveness a study on category 'A' taxpayers in Bahir Dar city tax revenue office So, the researcher used the variables that investigate the tax audit effectiveness that Drogalas et al. (2015) used in their research. Therefore, this study will focus on the tax audit effectiveness in Addis Ababa tax auditors' perceptions in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office.

1.3. Research Questions

Based on the statement of problem stated in the previous section, the researcher designed the following research questions.

- How does the information system affect tax audit effectiveness in ERCA Easter Addis Ababa Branch Office?
- How does the role of tax legislation highlight tax audit effectiveness in ERCA Easter Addis Ababa Branch Office?
- What are the effects of tax auditors' education level on tax audit effectiveness in ERCA Easter Addis Ababa Branch Office?
- How does the tax auditors' experience affect the tax audit effectiveness in ERCA Easter Addis Ababa Branch Office?
- How is the tax auditors' training affecting the tax audit effectiveness in ERCA Easter Addis Ababa Branch Office?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to investigate the tax audit effectiveness in Addis Ababa City tax auditors' perceptions in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office.

1.4.2. Specific Objectives

More specifically, the study intended:

- To examine the effects of information system on tax audit effectiveness in ERCA Eastern Addis Ababa Branch Office.
- To highlight the role of tax legislation on tax audit effectiveness in ERCA Eastern Addis Ababa Branch Office.
- To determine the effects of education level of tax auditors on tax audit effectiveness in ERCA Eastern Addis Ababa Branch Office.
- To examine the effect of tax auditors' experiences on tax audit effectiveness participated in the tax audit in ERCA Eastern Addis Ababa Branch Office.
- To examine the effect of tax auditors' training frequency that given for the tax auditors' on tax audit effectiveness in ERCA Easter Addis Ababa Branch Office.

1.5. Significance of the Study

This study may help to the experts and tax policy makers at the national level of the country, tax auditors, and auditors to use the outputs of the study that addressing the factors affecting the tax audit effectiveness in the Revenues and Customs Authority.

ERCA policy makers may use the outputs of the study for giving feedbacks to the federal government to strengthen the positive parts and revises weakens parts of the tax legislation, directives and regulations. It helps to have better audit effectiveness for the Ethiopian Revenues and Customs Authority.

In addition, the Revenues and Customs Authority tax auditors will be beneficiary in terms of time saving in the audit process and avoiding complexity if the policy makers of ERCA will revise the tax laws, directives, and regulations those are complex and difficult to audit process. Because, simple and easy tax legislation, directives, and regulations are very important to the tax auditors in order to use and interpret easily.

Moreover, the Revenues and Customs Authority will design the training programs for the tax auditors for those who did not get any training related with tax audit and help for the tax auditors make simple and easy for their tax audit process which will have a positive impact for audit effectiveness.

Finally, for those who are interested to make further study on the related issues this research findings may be used as indication.

1.6. Scope / Delimitation/

Every research endeavor has its own delimitation that limits the application of conclusions to be drawn from the analysis. The researcher wished to assess all revenues and customs authority branch offices in Addis Ababa to be included in the study. However, due to shortage of time and resources it is limited to only ERCA Eastern Addis Ababa Branch Office. In addition to the capability of the researcher to manage and analyze the data; the researcher proposed to distribute the questionnaires only for the tax audit officers in the tax audit department without considering the taxpayers for conducting this research.

1.7. Organization of the Research Paper

The study is organized as follows. Chapter one dealt with introduction, which includes: Background of the study, statement of the problem, research questions, objective of the study, significance of the study, and scope of the study; Chapter two dealt with the review of the related literature; Chapter three contained the research method, which described about the research design, the population, data sources, data collection method, data analysis and presentation, and literature driven hypothesis. Chapter four discussed about data presentation, analysis and interpretation, different tables and figures are used in this part to describe and analyze the data.

Finally the fifth Chapter presented the summary of finding, conclusion drawn from analysis; and possible recommendation for the identified problems also are included.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

The following part of this study reviews the relevant literatures that is selectively reviewed of meaning of tax audit, theoretical review, and Empirical review in general. The theoretical review focuses on the information system, tax legislation, tax education, auditors' experience and auditors' training that given to the auditors; which describe the determinants of tax audit effectiveness.

2.1. Meaning of Tax Audit

Tax audit is an examination of a taxpayer's financial report by tax collector bodies that to ascertain compliance with tax legislations of a country (Kircher, 2008). He further said that the tax audit is a process where the tax authority to confirm the amount of tax payable that the taxpayer declared correctly or not. Accordingly OECD (2006), a tax audit is an investigation of correctness of liabilities and fulfilling of tax obligation reported by taxpayers.

On the other hand Adediran et al. (2013) addressed that, the tax audit just like financial audit involves the gathering of information and processing it for determining the level of compliance of an organization with tax laws of the country. For a successful audit, it is necessary that the assignment is accomplished, completely and efficiently.

2.2. Theoretical Foundations

As Biber (2010) noted, that the role of an audit program in a modern tax administration must extend beyond merely verifying a taxpayer's reported obligations and detection of discrepancies between a taxpayer's declaration and supporting documents. According to Kangave (2005) tax administration is an activity of identification of tax liabilities of taxpayers based on the tax legislation which is practicing in accounting the liabilities & the collection of taxes or principals, interests and penalties imposed on the disobedient taxpayers. So tax administration covers wide

areas of study, encompassing aspects such as registration of taxpayers, assessments, returns processing, collections, and audits.

According to Biber (2010) if taxpayers believe that the tax authorities have the capabilities to find out any misleading reports or frauds during the audit process and the consequence creates penalties and interests based on the underreporting or non-reporting amount, mostly they will report the accurate tax liabilities by fearing the penalties and interests. Thus tax revenue of a country can be increased through tax auditing by direct assessment of additional taxes and indirectly discouraging underreporting of liabilities of taxpayers.

Revenue bodies are encouraged to examine the tax payers' books of records and the related companion documents to identify new approaches and opportunities for strengthening their tax audit activities (ECOD, 2006).

2.3. Audit Theories

Akinbuli (2010) and Hayes et al. (1999) reported that several theories of auditing were made to specify and determine the audit functions. The theories that are put forward here are some of the major theories from which the roles and need of auditing can be informed. These theories may help us appreciate why there are divers' perceptions to the roles or responsibilities of auditors.

According to Hayes et al. (1999) there are several different theories that may explain the demand for audit services. Some of them are well known in research and some of them are more based on perception

The Policeman Theory: According to Hayes et al. (1999), this was the dominant theory on auditing until the 1940s. This theory advocates that an auditor play the role of a police officer focusing on arithmetical accuracy and on prevention and detection of fraud. They further opine that the inability of the theory to explain the shift of auditing to verification of truth and fairness of the financial statements' has made it lose its explanatory power.

This theory of auditing was purely on the arithmetical accuracy and on the prevention and detection of fraud. This theory makes the auditor to detect and prevent errors and fraud in organizations.

The policeman theory claims that the auditor is responsible for searching, discovering and preventing fraud. In the early 20th century this was certainly the case. However, more recently the main focus of auditors has been to provide reasonable assurance and verify the truth and fairness of the financial statements. The detection of fraud is, however, still a hot topic in the debate on the auditor's responsibilities, and typically after events where financial statements frauds have been revealed, the pressure increases on increasing the responsibility of auditors in detecting fraud.

The Lending Credibility Theory: This theory of auditing regards the primary function of auditing to be the addition of credibility to the financial statements. In this view the service that the auditors are selling to the clients is credibility. Audited financial statements are seen to have elements that increase the financial statement users' confidence in the figures presented by the management (in the financial statement). The users' are perceived to gain benefits from the increased credibility, these benefits are typically considered to be that the quality of investment decisions improve when they are based on reliable information. Akinbuli (2010) states that audited financial statements can enhance stakeholders' faith in management's stewardship.

Theory of Inspired Confidence/Theory of Rational Expectations/: This theory states that stakeholders demand accountability from the management in return for their contribution to the organization. Limpeg (1932) addressees both the demand and supply for audit services. The demand for audit services is the direct consequence of the participation of third parties (interested parties of a company) in the company. These parties demand accountability from the management, in return for their investments in the company.

Accountability is realized through the issuance of periodic financial reports. However, since this information provided by the management may be biased, and outside parties have no direct means of monitoring, an audit is required to assure the reliability of the information. With regard

to the supply of audit assurance, Limperg (1932) suggests that the auditor should always strive to meet the public expectations.

The Moderator of Claimants Theory: This theory states that it is important that all vital participants in an organization continue to contribute. In order to continue these contributions, it is important that each group believes it receives a fair share of the organizations income. According to Salehi (2011), under this theory, it is important that all vital participants in an organization continue to contribute. In order to continue these contributions, it is important that each group believes it receives a fair share of the company's income by giving an opinion on the various interests represented in the amounts shown therein.

Agency Theory: This theory is associated with conflicting interests of shareholders and management of organizations, suggesting that the less informed party will have to demand for information that monitors the behavior of better informed manager (Akinbuli, 2010). According to Hayes et al. (1999), agency theory can be used to explain the supply side of the audit market. The contribution of an audit to third parties is basically determined by the probability that the auditor will detect errors in the financial statements and the auditor's willingness to report these errors.

Watts and Zimmerman (1986) suggests that the auditor is appointed in the interests of both the third parties as well as the management. A company is viewed as well a web of contracts. Several groups (suppliers, bankers customers, employees) make some kinds of contribution to the company for a given price. The task of the management is to coordinate these groups and contracts and try to optimize them: low price for purchased suppliers, high price for sold goods, low interest rate for loans, high share prices and low wages for employees. In these relationships, management is the agent, which tries to gain contributions from principles (bankers, shareholders, employees).

2.4. Assessment of Tax Audit Activities

2.4.1. Relationship between Information System and Tax Audit Effectiveness

According to Drogalas et al. (2015), the information technology system impact on public administration needs a further academic research. Danziger and Andersen (2002) in their analysis of previous studies shows that there is a significant positive relationship between information technology and public administration effectiveness for the improvement of decision process, planning and services. In addition to this the implementation of information technology in governmental sectors plays a vital role for performance and productivity of the internal management functions of the organization (Moon et al. 2014).

Similarly concerning tax audit effectiveness, in June 1991 Ho and Lau (1999) discussed about the new changed audit system known as field audit, and the results of their discussion show that the new field audit system was effective in tax auditing in the case of detecting tax evasion and maximize the governmental revenues by collecting taxes and penalties.

Moreover Flotopoulos et al. (2010) concluded that the new tax information system in Greek plays a vital role for tax audit effectiveness that the employees of the tax agency of Greek believe that employees' job performance in the tax audit activity is improved by using this system.

Thus the above literature reviews show that having a tax information system in tax authorities helps to tax audit effectiveness by increasing performance of the employees in audit activities, which assists to examine the validity of the taxpayers' reports.

2.4.2. Relationship between Tax Legislation and Tax Audit Effectiveness

Complexity in the tax code should be thought of as the extent of variation in possible tax treatments of economically related activities. This kind of complexity naturally creates opportunities for tax avoidance, and it also causes difficulties for otherwise honest taxpayers. As a result, it leads to confusion and mistakes that are often hard to distinguish from dishonesty.

Consequently, penalties become a less appealing approach to enforcement while, simultaneously, detection becomes more costly (Kopczuk, 2006).

One of the essential things affecting governments' ability in tax collection is the existence of proper tax laws and their correct performance. Having tax laws which are consistent and stable in enactment and performance will make the tax system to be less complex and can encourage tax compliance (Reza et al., 2011). Simplicity is the most important determinant of tax compliance in his study. Tax system should be as simple as possible for the reason that taxpayers come from various background, with different level of education, income level, different culture and different tax knowledge. In helping taxpayers to complete the tax returns accurately, the tax authority should have come up with a simple, but sufficient, tax return. The information required in the return must be at minimum level and be readily available from taxpayers' business and personal records (Mohd & Ahmad, 2011). It is importance to have a simple tax return and system. Although the word 'simple' carries multiple interpretations, at least the majority of taxpayers require that the tax return should be as simple as possible. The tax authority may assume its tax return is simple and easy to complete but it may not be from the taxpayers' point of view.

According to Drogalas et al. (2015) cited to Aaron and Slemrad (2004) there has been extremely association of effective tax administration and a good tax policy. The complexity of tax legislation is considered as one of the factors that affects noncompliance. Hence audit effectiveness may be adversely affected by complicated tax legislation complexity. And simplicity of a tax system has important attribute for it. Thus simplify is considers as an important attribute for tax system and it helps for tax audit effectiveness by increasing tax compliance.

2.4.3. Tax Education

According OECD (2006) tax education can be the informal or informal organized program by the tax authority which used for the taxpayers in the correct tax return completing and develop awareness of the taxpayers' responsibility of the tax system.

For considering any human resource relating with auditing, auditors must have a high level of education (Bou-Raad, 2000). The diversity of skills required, according to Bou-Raad, represents a major challenge to professional bodies, territory institution and managements

Increasing of the level of tax compliance, having tax knowledge is very crucial (Palil 2013). Thus, it is very important having knowledgeable and competent taxpayers to make the tax audit process be effective. The above literature reviews suggest that tax education is one of the effective tools to induce taxpayers to comply more.

2.4.4. Auditors' Experience

According to Gabella and Ning (2011) in the area of the experiences of accounting and auditing professional, researches are increasing in the recent time. Audit experience is refers to the auditors' capabilities and knowledge which are obtained in the time of job practices in the auditing professions. Auditors have responsibilities to apply their experiences in order to be effective in auditing accomplishment (Intakhan & Ussahawanitchakit, 2010). In the recent times studies have been conducted on audit experience some (Chi et al, 2010; Gaballa & Ning, 2011; Intakhan & Ussahawanitchakit 2010; Ussahawanitchakit, 2012; Ussahawanitchakit & Intakhan, 2011; Wang et al, 2012). However, even though the above studies conduct researches on internal audit effectiveness, the relationship between effectiveness and internal audit is not investigated at the local government level. Consequently, Intakhan and Ussahawanitchakit (2010) and Ussahawanitchakit (2012) recommend that future research is needed to conduct research on audit experience.

Also according to Barada and Saidin (2014) in their study they conclude that the relationship between audit experience and internal audit effectiveness is significantly related in governmental public sectors in Nigeria. This shows the important of audit experience, due to the fact that auditors that have well experience enable the provision of good quality audit findings and thereby enable good recommendations and play an important role on audit effectiveness.

2.4.5. Auditors' Training

Training is an important factor to upgrade skills of auditors. New audit techniques need to be learnt to make audit effective. Training institutes are developed to train auditors, but they are not up to the mark (Masood & Lodhi, 2015). So according to Masood and Lodhi, training for auditors has a positive effect on audit effectiveness.

According to OECD (2006) in order to maintain standards of auditing it is essential that auditors are given both initial training (classroom and on-the-job instruction) to bring auditors up to the required level, and continued training so that their skills are kept up to date and relevant. The extent and nature of this training and the balance between the two varies according to need, and relates to the recruitment and development policies adopted this varies depending on the level of qualifications and experience expected of new recruits. For example, those revenue bodies that recruit staff that are already professionally qualified provide much shorter initial training and new auditors are effective in their job very quickly. This can lead to new staff carrying out audit work within as little as three months of joining the organization. However, revenue bodies that recruit staff without professional qualifications need to provide much more extensive initial training in tax law and auditing.

OECD (2006) describes that any competency assessments and testing methods are also affected by the recruitment policy adopted. Those bodies that employ people with recognized accounting qualifications and experience generally do not use an in-house exam system. Their training is more focused on orientation and procedures for public sector work, rather than tax and auditing theory. Where there are no exams, trainees may have to collect a portfolio of evidence showing that they have used the techniques and methods, which they will need as auditors. Revenue bodies that recruit staff without professional auditing qualifications (and so provide tax and audit training) generally use in-house testing to confirm that trainees reach the required standard. This is not usually geared towards external professional qualifications, but some bodies have a process by which auditors can study for them or count internal training as credit, even up to degree standard. Continuing professional development is important to all revenue bodies as a means to ensure that auditor's skills are kept up to date.

All bodies offer training or development activity to address specific business needs such as the introduction of new software, legislation or practices, and to address the general training needs of individual auditors to make them more effective in their posts (OECD, 2006). A multitude of methods are used to deliver ongoing training and development, including training courses, computer based training packages, memos, guidance notes, self-study packs, facilitated workshops and discussion forums, on-the-job training, coaching and mentoring and virtual university and learning tools. As a rule, continuing professional training is not normally examinable and the amount of training undertaken varies between countries and over time.

Therefore, based on the above literature reviews appropriate staffing of audit department and good management of that staff are keys to the effective operation of a tax audit. An audit requires a professional staff that collectively has the necessary education, training, experience and professional qualifications to conduct the full range of audits required by its mandate

2.5. The Efficiency and Effectiveness of Tax Audit

Audit effectiveness is measured by examining the amount of evidences selected for examination in relation to the total availability evidence and an optimal level of evidence. Audit efficiency is then defined as audit effectiveness per unit of time by taking the audit effectiveness measure divide by minutes spent on the task (Kangave, 2005). And according to Arena and Azzone (2010) an audit is an independent examination of an entity by an auditor who delivers reports about facts observed the best of his best knowledge. Audit is exercised to hold an organization accountable to their deeds. Audits are effective if they are strongly enough to transparency highlight performance lags of government entities. Audit can be made effective if problems and issues are resolved.

Effective audits are outcomes of auditors' efforts which are directly affected by best human resources practices training, career development, knowledge sharing and management, performance appraisals, promotion systems and job security have a positive impact employee performance (Campbell, 1990). In addition to this, knowledge, skill, and education level are important to affect performance of auditors. Training of auditors is another important factor for effective audit. There is positive relationship between training and employee performance. If

auditors are trained to conduct audits with help of new auditing a method, effectiveness of audit can be increased

2.6. Empirical Review

According to Masood and Lodi (2015), the empirical study shows that government auditors in Pakistan are suffering from several restraining factors. which include lack of technology, financial resources and human resources, restricted access to records of audit, limited time available for audit, lack of staff competency, ineffective training institutes and qualified trainers, weak applicability of new auditing methods, high need of learning materials, audit size, massive corruption, resistance to new computerized auditing techniques, lack of powers to take actions against malpractices and deviations, full operational independence and lack of financial independence, political pressures and lack of top management support, lack of auditee cooperation to accept audit findings, heavy reliance on auditee for audit, lack of promotions, follow up of auditee, and massive corruption are affecting government auditors of Pakistan to conduct effective audits. Thus, based on the findings of this empirical study lack of staff competence, ineffective training institutes, and qualified trainers are the factors that affects the audit effectiveness which are related with this study.

In the case of tax legislation, Drogalas et al. (2015) in their findings in Greek, complexity and constant changes in tax legislation makes it difficult for auditors to be effective in their work. In their conclusion the relationship between tax legislation and audit effectiveness is negative.

According to Badara (2012), among the empirical findings of his research the effectiveness of tax audit is the issue of the skilled possessed personnel conducting the audit and it contributes to be tax compliance for the taxpayers. So this empirical study shows that skilled possessed personnel in terms of education, training, and experience are affecting the audit effectiveness.

The empirical finding of Badara and Saidin (2014) on their study in related on governmental public sectors in Nigeria showed that audit experience has a significant effect on audit effectiveness.

Also Niu (2010) on his research in New York State of Finance Department concluded that there is a positive relationship between the tax audit and voluntary compliance. The researcher said that this finding suggests that the audit productivity may be underestimated in many studies in the literature. It reminds us that when considering the productivity of the audit work, besides the direct audit collections, we should also take the audit impact on the voluntary compliance into consideration. For this reason, the findings may provide tax professionals and tax authorities with incentives to strengthen the audit power to better structure the audit organizations to generate more revenue to the state.

2.7. Knowledge Gap

As far as the researcher's knowledge the tax audit effectiveness is studied in Greek firms' auditors' perception by Drogalas et al. (2015). In addition to this there was silently similar but not identical research in Bahir Dar City Administration revenue office with the title of "Factors Affecting Tax Audit Effectiveness a Study on Category 'A' taxpayers in Bahir Dar City Administration Revenue Office" studied by Elias (2014). Both researchers used different variable to their study.

Thus the tax audit effectiveness on tax auditors' perception is not studied in Ethiopian typical in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office. So the researcher has seen this knowledge gap and proposes to conduct this research.

CHAPTER THREE

3. RESEARCH METHDOLOGY

3.1. Research Design and Methodology

This part discussed the research design and methodology used in the study, more specifically, research design, population, data sources, data collection methods, and data analysis and interpretation.

3.1.1. Research Design

There are three types of research designs; namely descriptive research design, explanatory research design and, exploratory research design. Since the objective of this study is to investigate the tax audit effectiveness in Addis Ababa, Ethiopia; tax auditors' perceptions in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office, the researcher used explanatory research design.

The research approach in this study is chosen based on the stated research questions and specific objectives to conduct the research. There are three approaches available for researchers in their research methodology namely quantitative, qualitative and mixed methods research approaches (Creswell, 2003). According Khotari (2004) in the quantitative method data is collected through a systematic empirical study and the results can be quantified with the help of statistics and mathematics. In quantitative research it is possible to compare and study several determinants and analyzing and testing them empirically will prove if there are relationships to be found in order to draw conclusions on the research.

Qualitative methods have an emphasis on understanding, interpreting and observing the data in a natural setting and with a sort of insider's view (Khotari, 2004). Quantitative approach is more objective than qualitative approach which is more of the subjective method.

The mixed approach inquirers draw liberally from both quantitative and qualitative assumptions. That means it is the combination of quantitative and qualitative research approach.

According to Creswell (2003), the primary criterion to be considered for selecting an approach is the research problem. In view of that, quantitative approach is best if the problem is identifying factors that influence an outcome, or understanding the best predictors of outcomes. This approach is also best to test a theory or explanation. In addition to this, a qualitative approach is advisable if a concept or phenomenon needs to be understood. Thus the researcher used the mixed approach method to conduct this study.

Therefore, to study the tax audit effectiveness, explanatory research design and mixed research approach are more appropriate to examine the variables in this study.

3.1.2. Population

Target Population

The target populations of the study are auditors at the tax audit department of the Ethiopian Revenues and Customs Authority Eastern Addis Ababa Branch Office. The total population of this department is 89 (that is 79 auditors, 9 Audit Team Leaders and 1 Audit Process Owner) from the tax audit department. Since the target population is small in number, the data collection cost for these respondents is very low, and make more reliable on the data; and hence the researcher chosen the census method for data collection than sampling technique.

3.1.3. Data Sources

In this study the researcher used primary data through questionnaire to draw out responses regarding the tax audit effectiveness of the tax audit department in ERCA Eastern Addis Ababa Branch Office. The researcher distributed questionnaire with close ended and open ended questions to the total population of the tax audit department; for all tax auditors, audit team leaders, and the audit process owner in the department.

3.1.4. Data Collection Methods

In conducting researches, researchers use different data collection methods. For primary data, researchers used questionnaires, interviews, observations, and focus group discussion to collect the data. In this study the researcher used questionnaires that are designed in the close and open ended forms based on the research questions and taken from Drogalas et al., (2015) with some modifications for gathering appropriate information to achieve the research objectives and testing the hypothesis

The questionnaires are designed in five main categories: the first one emphasized on the education level, experience and training of tax auditors; the second one focused on concepts of information system of the tax audit; the third one examined the concepts of tax legislation; the fourth one checked infringements of tracking of the auditors, and the fifth one was about the general questions which assessed all independent variables; information system, tax legislation, education level of auditors, experience of auditors and trainings given to the auditors. The tool to measure the variables that the researcher used is a 5 point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”

3.1.5. Data Analysis and Interpretation

In order to analyze and interpret the data, researchers should develop a model or adopt from previous researches and specify the dependent variable and the independent variables. Accordingly, the researcher specified one /1/ dependent variable and five /5/ independent variables based on the previous (Drogalas et al., 2015). Thus the researcher used the model that Drogalas et al. (2015) used in their research. Because the variables that the researcher used are the same as they used in their research; this model helped to test the hypothesis and answer the research questions designed by the researcher.

The researcher applied descriptive analysis and multiple regressions statistical tools by using Statistical Package for the Social Sciences (SPSS) Version 20 and Eviews-6 to analyze and interpret the detailed information about each variable quantitatively based on the model and the open ended responses that are to be analyzed using qualitative method to support or reject the hypothesis.

Dependent Variable: Tax Infringements Tracking (TIT) forms the dependent variable. Each item of Tax Infringements Tracking (TIT) is measured on a 5-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”.

Independent Variables: Information System (IS) and Tax Legislation (TL) is examined having a direct effect on Tax Infringements Tracking (TIT). In order to create an appropriate measure of information systems is to be used for tax auditing, each item of the Information System (IS) and Tax Legislation (TL) is measured on a 5-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”.

Control Variables: The effect of Information System (IS) and Tax Legislation (TL) on Tax Infringements Tracking (TIT) is controlled by Education level (EDU), Experience (EXP) and Training (TR) of the auditors.

Model: Multiple regression analysis is performed to estimate the magnitude of the effect of the “Information System (IS)” and “Tax Legislation (TL)” on “Tax Infringements Tracking (TIT)”. Therefore, the model that the researcher adopts from Drogalas et al. (2015) and used in this study is:

$$TIT = \beta_0 + \beta_1 IS + \beta_2 TL + \beta_3 EDU + \beta_4 EXP + \beta_5 TR + \epsilon_i$$

Source: Drogalas et al. (2015)

Where,

TIT = Tax Infringements Tracking

IS = Information System

TL = Tax Legislation

EDU = Education

EXP = Experience

TR = Training

β_0 , β_1 , β_2 , β_3 , β_4 , β_5 , & ϵ_i is the intercepts of the equation, mean value of information system, mean value of tax legislation, mean value of education, mean value of training, and error term of the equation respectively; and β_1 , β_2 , β_3 , β_4 , β_5 , are the parameters of the equation.

3.2. Literature Driven Hypothesis

Several statements of supposition can be made in view of the factors affecting tax audit effectiveness in Addis Ababa City tax auditors' perceptions in Ethiopian Revenues and Customs authority (ERCA) Eastern Addis Ababa Branch Office.

Drogalas et al. (2015) in their research they tested that there is a positive relationship between information system and tax audit effectiveness. According to this the researcher formulated the first hypothesis for this study as follow:

***H1:** The extent of information system (IS) effectiveness has a positive and statistically significant effect on tax auditing effectiveness.*

Concerning the tax legislation, Drogalas et al. (2015)) in their research they tested that there is a negative relationship between information system and tax audit effectiveness. Based on this the researcher designed the second hypothesis for this study as follow:

***H2:** The extent of tax legislation has a negative and statistically significant effect on tax audit effectiveness.*

According to Badara (2012), among the empirical findings of his research the effectiveness of tax audit is the issue of the skilled possessed personnel conducting the audit and it contributes to be tax compliance for the taxpayers. Also For considering any human resource relating with auditing, auditors must have a high level of education (Bou-Raad, 2000). According to the above literature, the researcher intended the third hypothesis.

***H3:** Education level of tax auditors' is positively related and statistically significant with tax audit effectiveness.*

Barada and Saidin (2014) in their study they proved that the relationship between audit experience and internal audit effectiveness is significantly related in governmental public sectors in Nigeria. Moreover, OECD (2006) explained that education and training have a positive

contribution for audit effectiveness. Therefore, based on the above researchers' findings the researcher formulated the fourth and fifth hypotheses as follow.

H4: Experience of tax auditors' is positively and statistically significant related with tax audit effectiveness.

H5: Training of tax auditors' is positively related and statistically significant with tax audit effectiveness.

3.3. Measurements

Dependent variables

Tax audit effectiveness: This variable was measured by tax infringements tracking of seven items (numbers 21, 22, 23, 24, 25, 26, and 27). All these items dealt with the ability of auditors to track the tax infringements for tax audit effectiveness.

Independent variables

It should be noted that the data for the five independent variables were collected from the tax audit staffs in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office. Therefore, the independent variables represent the perceptions of the tax auditors regarding these concepts.

Information system: This variable was measured by six items (numbers 8, 9, 10, 11, 12, and 13). All the items dealt with the information system of Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office.

Tax Legislation: This variable was measured by seven items (numbers 14, 15, 16, 17, 18, 19, and 20). All the items dealt with the tax legislation that the tax audit staffs in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office used.

Education: This variable was measured by four items (numbers 1, 2, 30, and 33). All of these items dealt with the education level of tax auditors.

Experience: This variable was measured by one item (number 1).

Training: This variable was measured by 3 items (numbers 5, 6, and 7). All these items dealt with the trainings that have given for tax auditors.

The following table (table1) showed that how the dependent and independent variable are measured in the analysis part.

Table 1. Measurements of Variables

Variables	Measurements
TIT	A 5-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”.
IS	A 5-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”.
TL	A 5-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”.
EDU	12 Complete= 1, Certificate=2, Diploma=3, Degree=4, Master=5
EXP	Less than 2 Years=1, 2 to 5 years=3, 5 to 10 years= 3, Above 10 years=4
Training	Yes = 1, No=2

Source: Researcher’s questionnaire

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

4.1. Introduction

As indicating in the previous chapter, the main attempt of this study is to investigate the tax audit effectiveness in the Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office. Therefore, this chapter presents the analysis and discussions for research findings obtained from the questionnaires. It reports the investigation results obtained from tax auditors and tax audit team leaders of the Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office covered in the questionnaire. The discussion begins with the questionnaires' response rate followed by the descriptive statistics of the respondents related questions; like the level of education, field of study, current job occupation, experience, training attended, types of training they have taken, and durations of the training. The results of the reliability analysis and the regression assumption test also reported and finally the results of hypothesis testing are presented.

4.1.1. Response Rate

Before distributing the questionnaire to the target population, the researcher checked a pilot test from 3 respondents (1 tax auditor, 1 tax audit team leader, and 1 tax audit process owner) to check the validity, and excluded from the analysis. The questionnaires were distributed to all tax audit and team leaders of the Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office. Finally 86 questionnaires were distributed to the tax auditors and tax audit team leaders and the total 86 (100%) questionnaires are collected. This shows an excellent response rate both for the tax auditors and tax audit team leaders.

4.1.2. Respondents Profile

The primary focus of this study is to investigate the tax audit effectiveness with regarding to the auditors' perceptions in Ethiopian Revenues and Customs Authority Eastern (ERCA) Addis Ababa Branch Office. Two different types of questionnaires were prepared and distributed to

collect primary data from the respondents; these were close ended and open ended questions. The target population for this study was tax auditors in in the tax audit department of ERCA of 89 tax audit staffs based on list compiled by the revenue office. After checking the pilot test, questionnaires were sent to 86 participants to tax audit staffs to get the responses of tax audit effectiveness. The questionnaire for the tax audit staffs dealt with the tax audit of ERCA in the tax audit department and covered the all the variables. The data collection process took ten days. After checking the pilot test the questionnaires distributed for 86 respondents and at the end of the collection process, the 86 respondents returned back the questionnaires and the pilot tests are excluded from the analysis.

4.2. Descriptive Statistics

In this study both descriptive statistic and regression analysis were used to analyze the data. The descriptive statistics utilized in this research used to analyze the demographic data included frequency and percentages. Inferential analysis is concerned with the various test of significance for testing hypothesis, normality, multicollinearity, and autocorrelation assumption in order to determine with what validity data can be said to indicate some conclusion(s). The data collected from the returned questionnaire were entered into SPSS (Statistical package for social science software) version 20 and Eviews- 6 for analysis. The data was sorted to group questions according to applicable constructs under test. Finally correlation and regression analysis were performed. In this study, a multiple regression analysis was performed by using all the discrete variables (dependent and independent) variables available in the dataset.

In the descriptive statistics all observations related to the dependent and independent variables has been made.

Table 2. Respondents Profile

Variables	Value	Frequency	Percentage
Education Level	Diploma	7	8.10
	Degree	71	82.60
	Master	8	9.30
	Total	86	100.00
Field of Study	Accounting and Finance	60	69.75
	Management	6	7.00
	Economics	20	23.25
	Total	86	100.00
Current Job Occupation	Tax Auditor	78	90.70
	Tax Audit Team Leader	8	9.30
	Total	86	100.00
Experiences	Less than 2 years	20	23.30
	2 to 5 years	61	70.90
	5 to 10 years	4	4.70
	Above 10 years	1	1.20
	Total	86	100.00

Source: Questionnaire and SPSS out results, 2016

The demographic characteristics of the respondents regarding level of education, field of study, current job occupation, and years of work experience in the tax audit department are presented in the above table 2.

As shown on the above table (table 2), 8.10%, 82.60% and 9.30% respondents are diploma, degree, and master holders respectively. Similarly in terms of their field of study 69.75%, 7%, and 23.25% are accounting and finance, management, and economics respectively. Also all of the respondents are tax auditors and tax audit team leaders. So most of the respondents are degree holders and their fields of study are relevant to the tax audit staffs for tax audit activities. Then the education level of the tax audit staffs with their fields of study will have a positive impact for the tax audit effectiveness.

In addition to this 20%, 61%, 4%, and 1% of the respondents have an experience of less than 2 years, 2 to 5 years, 5 to 10 years, and above 10 years respectively. Hence most of tax audit staffs' experiences are between 2 to 5 years (61%), which will have a positive effect on tax audit effectiveness. This means more experienced tax audit staffs have a positive impact for tax audit effectiveness. Besides this the respondents forwarded their responses on the open ended questions as level of experience increases tax audit effectiveness increases.

Table 3: Trainings

Variables	Value	Frequency	Percentage
Attending Training	Yes	39	45.30
	No	47	54.70
	Total	86	100.00
Types of Training	Investigation and Intelligence	5	12.82
	Preparation of Audit Findings	17	43.59
	Audit Selection Techniques	14	35.90
	Manufacturing Audit	1	2.56
	Audit Manual	2	5.13
	Total	39	100.00
Duration of Training	Less than 16 days	36	92.30
	16 to 30 days	2	5.10
	Above 60 days	1	2.6
	Total	39	100.00

Source: SPSS output from tax auditor staff respondents, 2016

Table 3 showed that from the total respondents 45.30% are attained training and the rest 54.70% did not get trainings from the tax authority. Among the respondents 5.80%, 19.80%, 16.30%, 1.20%, and 2.30% have taken investigation and intelligence audit, preparation of audit findings, audit technique selections, manufacturing audit, and audit manuals trainings respectively. In terms of duration of trainings 92.30%, 5.10%, and 2.6% are attained the training less than 16 days, 16 to 30 days, and above 60 days respectively.

Based on the above table 3, from the total respondents 54.70 % have not got training and it will have a negative impact on audit effectiveness. Even though most of the tax audit staffs did not get training, those who have taken training are relevant trainings with tax audit and it helps to the tax audit effectiveness. But the durations of the training is short period of time which is less than 16 days and will have negative impact on tax audit effectiveness.

In general due to the smaller number of trained tax auditors in the tax department and the duration of training is very short, tax audit effectiveness will be affected negatively.

Table 4. Descriptive statistics of dependent and independent variables

	N	Minimum	Maximum	Mean	Std. Deviation
IS	86	1.00	4.67	2.6899	1.04041
TL	86	1.43	4.14	2.8123	.57988
EDU	86	3	5	4.01	.420
EXP	86	1	4	1.84	.550
TR	86	1	2	1.55	.501
TIT	86	1.00	4.43	2.8355	.83228
Valid N (list wise)	86				

Source: SPSS output from tax auditor staff respondents, 2016

As show on table 4 the mean value of information system (IS), tax legislation (TL), education (EDU), experience (EXP), training (TR), and tax infringement (TIT) is 2.6899, 2.8123, 4.01, 1.84, 1.55, and 2.8355 respectively. Besides, the decision rules used in the analysis was average mean less than 3 was considered as low, average mean equal to 3 was considered as medium and average mean greater than 3 was considered as high throughout the study (Best and khan 1995). This means that the average responses of tax infringement tracking (TIT), information system (IS) and tax legislation (TL) is good, education (EDU) is Degree holders, experience (EXP) is 2 to 5 years, and training (TR) is not given.

Based on this data the responses of tax audit staffs for the variable tax infringement, information system and tax legislation is good for the questions. In addition to this the education level of the tax audit staffs are degree holders in average and this helps to tax audit effectiveness.

Concerning experience and training, the tax audit staffs have 2 to 5 years of experience and this much period of experience is good; and this is advantages for tax audit effectiveness. But due to smaller numbers of trained employees in ERCA, the tax audit effectiveness will be affected negatively.

4.3. Test of Reliability

Pilot study (preliminary test) was carried out using convenient sampling method in the Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office having the same characteristics with the participants of the main study. The advantage of doing a pilot study include; it helps to detect potential defects in the measurement procedures, it assists in identifying ambiguous items, and it allows the researcher to become aware of non-verbal behavior that may occur due to the wording question. Therefore, the researcher tried to insures the reliability and validity of the questionnaire. To measure the reliability of the questionnaire, the researcher applied a preliminary reliability test of 3 respondents (1 tax auditor, 1 tax audit team leader, and 1 tax audit process owner) from 89 tax audit staffs. According to Cronbach's (1951), a reliability coefficient exceeding 0.5 for any test or scale was acceptable reliability coefficient. Therefore, as we can see on table 5 below the (Cronbach's alpha) indicates that the questionnaire administered in this study, seven items (items related with tax legislation) are reliable and the remaining items are highly reliable.

Table 5 Test of Reliability of Individual Variables

Construct	Instrument Items	No of Items	Cronbanch Alpha
TIT	TIT 21 - TIT 27	7	.797
IS	IS 8 - IS 13	6	.900
TL	TL 4 - TL 20	7	.628

Source: Survey data, 2016 SPSS output

Moreover, to measure the consistency of the questionnaire particularly the Likert-type scale the reliability analysis is essential in reflecting the overall reliability of constructs that it is measuring. To carry out the reliability analysis, Cronbach's Alpha (α) is the most common measure of scale reliability and a value greater than 0.700 is very acceptable (Field, 2009;

Cohen and Sayag, 2010) and according to Cronbach's (1951), a reliability value (α) greater than 0.600 is also acceptable. According to cited by Kumar and Shah (2015), Cronbach's alpha value of greater than 0.600 is also considered acceptable. A reliability coefficient value of 0.50 to 0.60 has also been reported as sufficient for preliminary research.

Table 6. Reliability of Overall Variables

Cronbach's Alpha	No of Items
.652	20

Sources: survey data, 2016 SPSS output

From table 6 above, the value for Cronbach's Alpha (α) was 0.652 for all variables. When these calculated reliability value 0.652 is above the minimum values of alpha 0.600 advocated by Cronbach's (1951), then the responses generated for all of the variables' used in this research were reliable enough for data analysis.

4.4. Test Results for Ordinary Least Squares (OLS) Assumptions

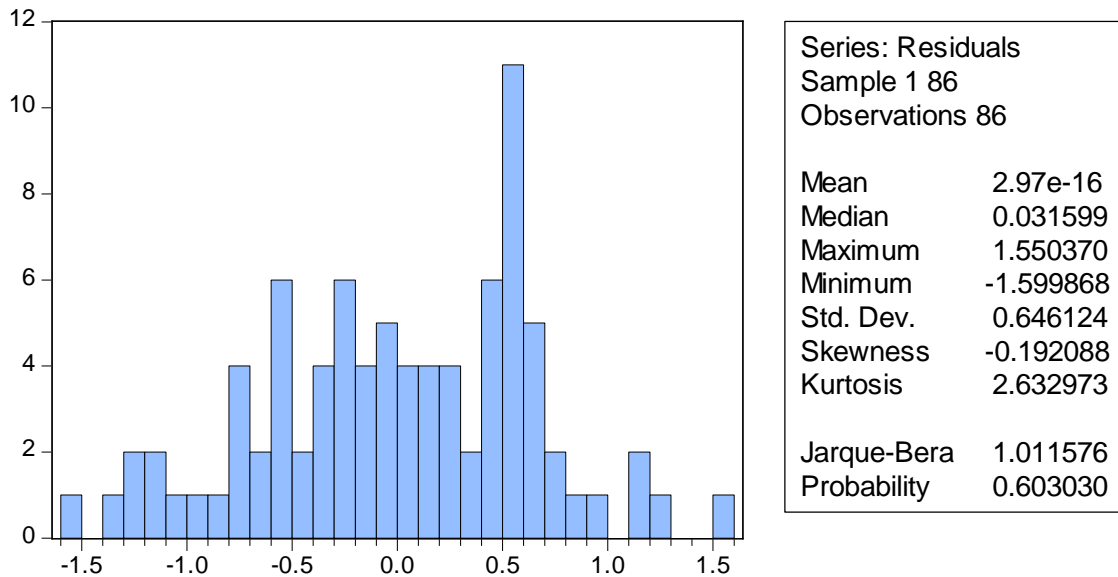
In these section assumptions of normality test, constant variance, and multicollinearity and autocorrelation are tested to check the fitness of the model

4.4.1. Normality Test by Jarque-Bera

Distribution of the data is another issue in this research, whether it is normal/or not. To check the distribution of score is normal, we need to look at the values of skewness in the SPSS output. Positive value of skewness indicates too many low scores in the distribution, whereas negative values indicate a build-up of high scores (Field, 2009). Skewness measures the degree to which cases are clustered towards one end of an asymmetry distribution. In general, the further the value of skewness is far from zero, the more likely it is that the data are not normally distributed (Field, 2009).

In a normal distribution, the values of skewness are 0. If a distribution has values of skew above or below 0 then this indicates a deviation from normal (Field, 2009). As we have seen from the following figure 1, the skewness approaches or around to zero and the kurtosis value is approaching 3, it is almost normal. Thus all variables were found to be normal.

Figure 1. Normality test by Jarque-Bera



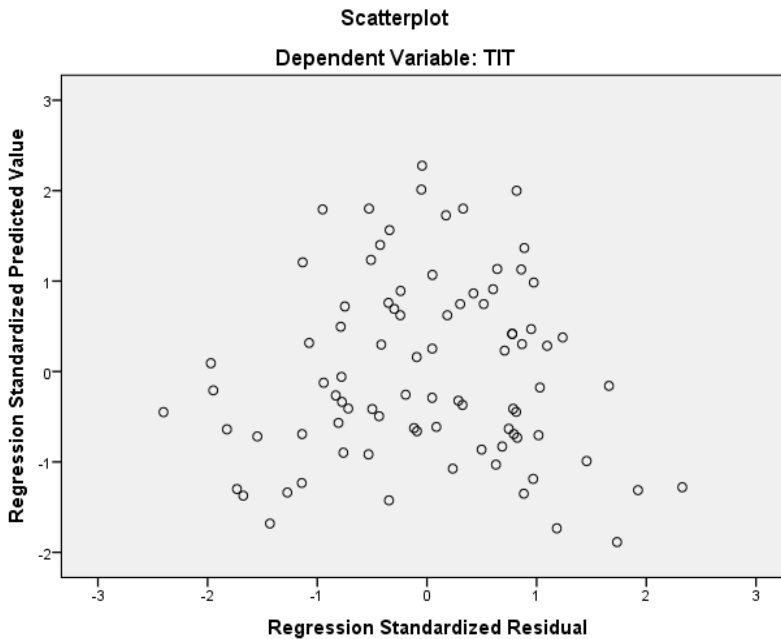
Source: researcher's computation 2016 Eviews-6 output

Moreover for the regression output of the model the Jarque-Bera for Heteroskedasticity was evies-6 to test for homogeneity of variance and a p-value of greater than 0.05 were acceptable. As a result shown on the figure 1 above p-value is 0.603030 which is greater than 0.05 the critical value. Shows homogeneity of variance across the model.. This shows that the residual distribution can follow the normal distribution. In addition for checking normality the kurtosis value (2.632983) which is close to 3 and skewness (-0.192088) which is close to zero (0). These all showed that the distribution is normal.

4.4.2. Constant Variance Test

As we can see on the following figure (figure 2) the distribution between the regression standardized residual value and the dependent variable (TIT) has almost homogeneous no any kinds of visible shape. Therefore, there is no problem on the constant variance test.

Figure 2. Test of Heteroskedasticity



Source: researcher's computation 2016 Eviews-6 output

4.4.3. Multicollinearity

Multicollinearity exists when there is a strong correlation between two or more predictors in a regression model. Multicollinearity poses a problem only for multiple regressions because it involves more than two predictors. Perfect Collinearity exists when at least one predictor is a perfect linear combination of the others. According to Cronbach's (1951) one way of identifying multicollinearity is to scan the correlation matrix of all of the predictor variables and see if any correlate very highly (correlation of above 0.80 or 0.90). Another method is to produce a Collinearity diagnostics with the use of SPSS, and one of which is the variance inflating factor (VIF). The VIF indicates whether a predictor has strong linear relationship with the other predictor(s). Although there are no hard and fast rules about what value of the VIF should be a cause for concern, Field (2009) suggests that value of 10 is good value at which to worry. Field (2009), and suggest that if the average VIF is greater than 1, then multicollinearity may be biasing the regression model. Related to the VIF is the tolerance statistics, which is a reciprocal of VIF ($1/VIF$). Such values below 0.2 are worthy of concern. Considering the regression model for this study correlation matrix of all of the predictor variables less than or equal to 0.541 for all variables as shown on table 6 as such no multicollinearity is observed in this model.

As shown in the Collinearity table (table 7 below), the tolerance levels for all variables are greater than 0.10 and the VIF value are less than 10), and also the correlation matrix of all the variables have the paired values among the predictors are less than 0.55 (see table 8) indicates that there were no multicollinearity problems that alters the analysis of the findings, rather it leads to the acceptance of r value, tolerance and VIF values.

Table 7. Collinearity Statistic

Model	Collinearity Statistics	
	Tolerance	VIF
IS	.562	1.779
TL	.569	1.757
EDU	.949	1.060
EXP	.718	1.394
TR	.710	1.408

Source: Survey data, 2016 SPSS output

4.4.4. Autocorrelation Assumption

Data were assessed to ensure that the autocorrelation is not a threat for the use of OLS for analysis. This assumption can be tested with the Durbin-Watson test which test for serial correlation between errors and the value closer to 2 are acceptable (Field, 2009). As described on table 9 on the next page, the Durbin-Watson statistics value is 1.868 very close to 2 suggests that there is no severe autocorrelation among error terms.

But this study is not used the time series data, rather it is used a primary data, which was questionnaire and there is no need of testing autocorrelation assumption.

4.5. Correlation

Pearson product moment correlation coefficient (r) was used to determine the strength between the dependent (TIT) and independent variables (IS, TL, EDU, EXP, &TR). It is a parametric technique which gives a measure of the strength of association between two variables. As it can be shown on table 8 below correlation matrix, each variable is perfectly correlated with itself and

so $r=1$ along the diagonal of the table. Tax audit effectiveness is positively and significantly related to information system (IS) effectiveness with a Pearson correlation coefficient of $r = .534$, $p \leq 0.001$ at 1% level of confidence, but tax audit effectiveness is negatively and significantly related to tax legislation (TL) $r = -.453$, $p \leq 0.001$ at 1% level of confidence. Hence the previous study supported that information system is positively and significantly related to tax audit effectiveness and also tax legislation has negatively and significantly related to audit (Drogalas et al., 2015).

Therefore based on this data information system and tax legislation have significant impact on tax audit effectiveness. Because information system has a 1 % level of confidence that affects the tax audit effectiveness positively and significantly. Also the tax legislation system has a 1% level of confidence and has negatively and significant effect on tax audit effectiveness.

However tax audit effectiveness is positively and not significantly related to education (EDU) with $r=.121$, $P>0.01$ and experience (EPR) with $r=.190$, $p>0.01$. Tax audit effectiveness is positively and significantly related to training (TR) with $r=.238$, $p>0.01$ at 5 % level of confidence. These are supported by previous studies (OECD, 2006 & Palil, 2013).

Table 8. Pearson Correlations Matrix

		TIT	IS	TL	EDU	EXP	TR
TIT	Pearson Correlation	1					
	Sig. (2-tailed)						
IS	Pearson Correlation	.534**	1				
	Sig. (2-tailed)	.000					
TL	Pearson Correlation	-.450**	-.652**	1			
	Sig. (2-tailed)	.000	.000				
EDU	Pearson Correlation	.121	.103	-.067	1		
	Sig. (2-tailed)	.267	.347	.541			
EXP	Pearson Correlation	.190	.157	-.129	.161	1	
	Sig. (2-tailed)	.079	.148	.238	.138		
TR	Pearson Correlation	.238*	.092	-.111	-.198	-.485**	1
	Sig. (2-tailed)	.027	.400	.307	.067	.000	

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

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

Source: Survey data, 2016 SPSS output

4.6. Correlation Matrix

As we can see on table 8 previous page, there were strong correlations between the dependent variable tax audit effectiveness (TIT) and independent variables IS ($r = 0.534$), TL ($r = -0.450$), and with ($P \leq 0.001$) at 1% level of significant, shows a strong support for first and second hypothesis respectively. Also there was strong correlations between the dependent variable tax audit effectiveness (TIT) and independent variables TR ($r = 0.231$) with ($P < 0.05$) at 5% level of confidence, shows a strong support for the fifth hypothesis.

However, there were no significant correlations between the dependent variable tax audit effectiveness (TIT) with the independent variable education (EDU) and experience (EXP) thereby leading to reject the third and the fourth hypotheses. The correlation analysis was

utilized to reject or accept research hypothesis in previous audit research in addition to the regression analysis (Cohen and Sayag, 2010).

4.7. Multiple Regression Results

In this study, multiple regression analysis was carried out to get the predictive value of the constructs considered. Since the model is developed in such a way that each construct is being affected by other constructs, it is necessary to carry out a separate regression analysis against each variable which are considered to be affected by other variables. This was basically made to determine the linear combination of the constructs.

This part discuss about the regression of tax audit effectiveness (TIT) on the independent variables /information system (IS), tax legislation (TL), education (EDU), experience (EXP), and training (TR)/ by the following regression tables.

Table 9. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.630 ^a	.397	.360	.66601	1.868

a. Predictors: (Constant), IS, TL, EDU, EXP, TR

b. Dependent Variable: TIT

Source: Survey data, 2016 SPSS output

From table 9 above, it can be seen that the multiple regression (correlation) /R/ value of 0.630 (63%) indicates a positive relationship between the dependent and independent variables and R Square value for the model showed that 39.7% of the dependent variable in the model can be predicted by the independent variables. The remaining 60.3% of the dependent variable is explained by other variables which are not depicted in the model. Moreover, adjusted R square value for the model shows that 36% of goodness of fit of the model is moderate.

Table 10. ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.393	5	4.679	10.548	.000 ^b
	Residual	35.485	80	.444		
	Total	58.878	85			

a. Dependent Variable: TIT

b. Predictors: (Constant), IS, TL, EDU, EXP, TR

Source: Survey data, 2016 SPSS output

Table 10 presents the ANOVA report on the general significance of the model. As p is less than 0.001, the model is more significant. Thus, the combination of the independent variables (information system, tax legislation, education, experience and training) significantly predicts the dependent variable (tax audit effectiveness) (F=10.548; p <0.001).

Table 11. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.211	1.093		.193	.847	
	IS	.291	.093	.363	3.140	.002	.562
	TL	-.194	.165	-.135	-1.173	.244	.569
	EDU	.196	.177	.099	1.109	.271	.944
	EXP	.398	.155	.263	2.570	.012	.718
	TR	.560	.171	.337	3.275	.002	.710

a. Dependent Variable: TIT

Source: Survey data, 2016 SPSS output

Table 11 shows the Beta Coefficients that present the contributions or positive or negative relationship of each variable to the model. The t and p values showed that the influence of the independent variables on the dependent variable. From this, it is clear that the information system, experience and training had the highest affecting on tax audit effectiveness with comparing tax legislation and education. According to coefficient results, all predictors, except tax legislation are positively (directly) related to dependent variables and information system,

experience and training are significant however tax legislation and education are not significant as individually. The previous study is also reviewed information system and tax legislation is significant (Drogalas et al., 2015). Thus, the model for predicting perceived tax audit effectiveness becomes:

$$\mathbf{TIT = 0.211+0.291-0.194TL+0.196EDU+0.398EXP+0.560TR}$$

Where,

TIT = Tax Infringements Tracking

IS = Information System

TL = Tax Legislation

EDU = Education

EXP = Experience

TR = Training

The β -values (beta coefficient) tell us about the relationship between the outcome and each predictor. If the value is positive we can tell that there is a positive (direct) relationship between the predictor and the outcome, whereas a negative coefficient represents a negative (an inverse) relationship. For these data all predictors, except tax legislation have positive β -values indicating positive (direct) relationships. So, there is a positive (direct) relationship between the predictors (information system, education, experience and training) and an outcome (tax audit effectiveness/tax infringements tracking/) since the value of beta coefficient is positive.

Therefore, Standard Integrated Government Tax Administration System (SIGTAS) and Automated System for Customs Data Base (ASYCUDA /for import and export/) of Ethiopian Revenues and Customs Authority (ERCA) as information system (IS) is good and helps to tax audit process, tax audit effectiveness is also improved. Similarly, the tax auditors' education level and experience is high with appropriate trainings, tax audit effectiveness increases. But tax legislation has negative β -value indicating negative (inverse) relationships to the outcome (tax audit effectiveness). If tax legislation is complicated and interpreted in different way, tax audit effectiveness will be ineffective.

4.8. Hypothesis Testing

Based on the regression analysis of the above model, the information system has a positive effect or correlation on tax audit effectiveness at 1% level of confidence ($\beta = 0.291$, $p < 0.01$). Hence, the first hypothesis was supported. It implies that information system has a positive influence on tax audit effectiveness. The previous study has presented there was positively related to information system and tax audit effectiveness (Drogalas et al., 2015). Also the tax audit staffs of ERCA for open ended questions responded that the information system of ERCA (SIGTAS and ASYCUDA) had a vital role for tax audit effectiveness in a positive manner for audit process. The respondents responded that the information system of ERCA is simple and easy to use; it increases for the tax audit effectiveness. So, the respondents' responses supported the first hypothesis.

Based on the regression analysis of the above model, education has a positive (direct) effect or correlation on tax audit effectiveness but not significant ($\beta = .194$ $p > 0.05$). Hence, hypothesis three was rejected, Even though by the previous studies presented a positive relationship with tax audit effectiveness (OECD, 2006, & Palil, 2013), it is not significant. But hypothesis three was supported by the tax audit staffs of ERCA responses on the open ended questions that the education level of the tax auditors increases, then effectiveness of tax audit also increases.

In addition this there is a positive (direct) relationship between experience and tax audit effectiveness at 5% level of confidence ($\beta = 0.398$, $p < 0.05$), providing support for hypothesis four. The previous study has presented there were positively relationship between auditors' experience and internal audit effectiveness (Barada & Saidin, 2014). It indicates that more experienced auditors have a positive influence on tax audit effectiveness. This also strengthened by the respondents' responses they responded as year of experience increases the tax audit staffs' abilities for tax auditing increases and hence tax audit effectiveness becomes effective.

Moreover, there is a positively (directly) relationship between training and tax audit effectiveness at 1% level of confidence ($\beta = 0.560$, $p < 0.01$), providing supports the fifth hypothesis. Also the previous studies presented there was a positive relationship between

training and audit effectiveness (Masood & Lodhi, 2015 & OECD, 2006). Also as the tax audit staffs responded that having an appropriate training for tax audit, tax audit effectiveness becomes more effective. This implies giving relevant training for tax auditors helps to tax audit effectiveness improvement.

Besides the above relationships, tax legislation had a negatively (an inversely) relationship with the tax audit effectiveness without significant ($\beta = -0.194$, $p > 0.05$), thereby the second hypothesis is rejected due to non significance of tax legislation. The previous study presented that there was a negative relationship between tax legislation and tax audit effectiveness (Drogalas et al., 2015). Additionally, on the responses of tax audit staffs; the complicated tax legislation affects the tax audit effectiveness. Also some directives and regulations which are not accordance with tax proclamation negatively affect the tax audit effectiveness. The reasons that are responded by tax auditors are tax auditors waste their time to understand and interpret the tax legislation, directives and regulations instead of doing their auditing activities properly. Besides the time consuming for understanding the tax legislation, directives and regulations, these problems also create the tax audit effectiveness in terms calculating the estimated tax receivable from the taxpayers. Hence the responses of tax audits staffs strengthen the second hypothesis.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of Major Findings

Based on the regression output information system, training, and training were positively (directly) contributed for the tax audit effectiveness of Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office at 1%, and 5% level of confidence respectively . However tax legislation was negatively (inversely) contributed for tax audit effectiveness with non significant.

In addition to this the information system, training and experience were the major determinants of tax audit effectiveness in Ethiopian Revenues and Customs Authority Eastern (ERCA) Addis Ababa Branch Office. But tax legislation and education and were not significantly important for the tax audit effectiveness of Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office as of the above three variables.

Moreover this study found that the composite measure of information system, tax legislation, education, experience and training accounts for the 39.7% ($R^2 = 0.397$) variance for the tax audit effectiveness identifying noncompliance tax audit activities and added contributions to the tax authority. That means the impact of these five independent variables contributed for the dependent variable tax audit effectiveness (TIT) were 39.7% and the remaining 60.3% were other variables that are not included in this study.

The final portion of this research aims to conclude the findings of the study focusing on the tax audit effectiveness provide recommendations based on the research findings of the study. These conclusions and recommendations are drawn from the findings of the study specifically related to the information system, tax legislation, education, experience and training in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office.

5.2. Conclusions

Since tax audit is very crucial for revenue collection process for any tax authority, tax audit effectiveness is the main means to ensure growth and development of a country. The existence of tax audit effectiveness in the tax authority reduces tax evasions and increases obedience taxpayers, hence improves the revenue collection process. Giving attention of this aspect, this study was investigated the tax audit effectiveness in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office so as to examine the tax authority position in which ERCA Eastern Addis Ababa Branch Office should carry out to improve the tax audit effectiveness. The following conclusions were drawn based on the tested hypotheses which were proposed initially.

- The tax audit effectiveness of Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office increases, when more supports from the information system and training having skillful tax auditors in the tax authority. Table 11 of regression analysis showed that the information system and training has very strong at 1% level of confidence ($P < 0.01$) contributions to tax audit effectiveness. Also experience of auditors has almost a strong contribution to tax audit effectiveness. Even though tax legislation and education have not statistically significance for the contribution of tax audit effectiveness, these variables are important for the tax audit effectiveness
- In addition, the correlation analysis as shown on table 8 all the independent variables except tax legislation have the direct effect of the tax audit effectiveness and the regression results as shown on table 11 also all the independent variables except tax legislation have a positive sign of coefficient with tax audit effectiveness in Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch Office. However, the tax legislation and the education level of tax audit staffs were statistically not significant enough at 5% level of confidence to contribute for the tax audit effectiveness; therefore, this conclusion requires future research should consider for obtaining the impact of tax legislation and education level of tax audit staffs on the tax audit effectiveness.

- Furthermore, the correlation analysis as shown table 8 showed that the contributions of the independent variables to the tax audit effectiveness. For instance, the tax legislation was negatively and statistically significant correlated with tax audit effectiveness to the Ethiopian Revenues and Customs Authority (ERCA) Eastern Addis Ababa Branch office. So this conclusion requires future researches should consider the effect of tax legislation on tax audit effectiveness.

5.3. Recommendations

On the bases of the research findings and achieved results with regard to the main objective of this study to identify the major effects of tax audit effectiveness in the Ethiopian Revenues and Customs Authority Eastern Addis Ababa Branch Office and also to prove the hypotheses, the researcher provides the following recommendations to ERCA, the tax audit department and the tax policy makers.

The finding of this research proved that the information system and training were statistically significant and positively related with the tax audit effectiveness in ERCA and experience also slightly statistically significant and positively related to ERCA.

- Thus, Ethiopian Revenues and Customs Authority (ERCA) should highly support the information system by making the information system is more appropriate, simple and easy to use for the tax auditors by investing on it. So software developers should place particular attention when the developing software that can be easily accessible by tax audit staffs.
- Ethiopian Revenues and Customs Authority (ERCA) should give relevant and appropriate short term trainings for the existing tax audit staffs those who have not taken any trainings in order to clearly understand the tax legislation, audit manuals, directives, regulations, guidelines, and appropriately manipulate the information system.
- Moreover, the tax authority should give more attentions for experienced tax audit staffs to maintain for long period of time by different mechanism like covering educational fee in

the universities available in the city in order to upgrade the tax audit staffs' education level and giving incentives.

- Also based on the findings tax legislation has a negative relationship to tax audit effectiveness, the tax authority policy makers should give more attention and revise the tax legislation, directives and regulations in order to the tax audit staffs use it simply and easily.
- Although the researcher believes that this study is deep, it is still believed that it can be further extended to include more respondents from externals like taxpayers and independent variables to make it more realistic and more reliable.
- Finally, due to different factors the researcher couldn't touch other dimensions of tax audit effectiveness.

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APPENDIX

APPENDIX A

St. Mary's University
School of Graduate Studies
School of Business
Department of MBA in Accounting and Finance

**Ethiopian Revenues and Customs Authority Eastern Addis Ababa Branch Office Tax
Audit Staffs Census Questionnaire**

Dear participant,

This study is entitled “**Tax Audit Effectiveness in Addis Ababa, Ethiopia: Tax Auditors' Perception in ERCA Eastern Addis Ababa Branch Office**”. The researcher is Kibret Tewabe Azene who is currently an MBA (in accounting and finance) student at St. Mary's University.

The purpose of this study is to investigate the long run relationship between tax audit effectiveness and determinants of tax audit effectiveness in Addis Ababa, particularly in ERCA Eastern Addis Ababa Branch Office. To supplement the data obtained from tax auditors by means of questionnaire, the researcher seeks to gather relevant information from total staffs in the tax audit department of ERCA Eastern Addis Ababa Branch Office using a self administered questionnaire.

Participation in this study is completely voluntary. Results will be recorded anonymously; and strict confidentiality will be maintained. Individual responses will not be directly reflected in the researcher's MBA thesis.

Responding this questionnaire may not take much time. Any information provided would only be used for academic purpose only. As a result, it would be kept confidential and utmost secrecy would be maintained.

I thank you in advance for your kind cooperation.

Kibret Tewabe Azene

DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE!!!

The questionnaire has five parts: **Part I:** Respondents' profile, **Part II:** Information System of ERCA, **Part III:** Tax Legislation and **Part IV:** Infringements /Violations/ of tracking, and **Part V:** General questions.

Part I: Questions related to profile of ERCA Eastern Addis Ababa Branch Office tax audit staffs

Please read each item carefully and give your honest response to each item and please provide your response by **circling** the relevant best choice.

1. Education

A) 12 Complete B) Certificate C) Diploma D) Degree E) Master F) PhD

2. Field of study (multiple answers are possible)

A) Accounting & Finance B) Economics C) Management

D) Other, please specify _____

3. Current job occupation

A) Tax Auditor B) Tax Audit Assistance C) Tax Audit Team Leader

D) Audit Process Owner E) Other, please specify _____

4. How long is your experience?

A) Less than 2 years B) 2-5 years C) 5-10 years D) Above 10 years

5. Did you attend any special training with your current position?

A) Yes B) No

6. If your answer is 'Yes' for question No 5 above, from the following which one did you attend? (multiple answers are possible)

A) Investigation & Intelligence B) Preparation of Audit Findings

C) Audit Selection Techniques D) Other, please specify _____

7. How long was the duration of the training?

A) Less than 16 days B) 16-30 days C) 31-60 days D) more than 60 days

Part II: Questions regarding Information System of ERCA

Please indicate whether you strongly disagree, disagree, neutral, agree, or strongly agree with the following statements by placing a **tick (✓)** inside the appropriate box.

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8	Standard Integrated Government Tax Administration System (SIGTAS) is simple and easy to use.					
9	Automated System for Customs Data Base (ASYCUDA) is simple and easy to use.					
10	SIGTAS helps auditors in audit process /procedures /.					
11	ASYCUDA helps auditors in audit process /procedures/.					
12	SIGTAS provides appropriateness and accurate information.					
13	ASYCUDA provides appropriateness and accurate information.					

Part III : Questions Regarding Tax Legislation System

Please indicate whether you strongly disagree, disagree, neutral, agree, or strongly agree with the following statements by placing a **tick (✓)** inside the appropriate box.

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
14	The tax legislation is complicated.					
15	The tax legislation can be interpreted in different ways.					
16	The tax legislation is not easily accessible.					
17	The tax directives and regulations are not in accordance with the proclamation.					
18	Auditors do not performing the audit work as per general audit standards procedure.					
19	The audit manual cannot give detailed explanation for the interpretation of tax laws and regulations.					
20	The audit program is not promoting voluntary compliance thereby builds public confidence.					

Part IV: Questions Regarding Infringements /Violations/ of tracking

Please indicate whether you strongly disagree, disagree, neutral, agree, or strongly agree with the following statements by placing a tick (✓) inside the appropriate box.

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
21	The tax auditor tracks differences between total sales submitted in VAT report and sales reported on financial statements.					
22	The tax auditor tracks differences in the expenses submitted in VAT report and expenses reported on financial statements.					
23	Tax auditor tracks differences in stock quantity on stock card and bookkeeping recording.					
24	The tax auditor tracks differences in the inventory valuation method used and allowed by the proclamation.					
25	The tax auditor tracks fake invoices.					
26	The tax auditor tracks differences in customers and suppliers records.					
27	The tax auditor tracks differences in VAT amount in VAT reported and on financial statement reported.					

Part V: General Questions

28. How does an information system of ERCA affect tax audit effectiveness?

29. How does tax legislation of ERCA affect tax audit effectiveness?

30. How does auditors' education level affect tax audit effectiveness?

31. How does auditors' experience affect tax audit effectiveness?

32. How does auditors' training affect tax audit effectiveness?

33. What are the factors that affect tax audit effectiveness in ERCA? And describe how they affect please.

34. Is there anything to add in relation to tax audit effectiveness in ERCA Eastern Addis Ababa Branch Office? Describe in detail please.
