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Impact of taxpayers' perception of fairness on voluntary tax compliance behaviour: Evidence from categories A and B taxpayers in Bahirdar

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*A Thesis Submitted to the School of Graduate studies of Addis Ababa University in
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Addis Ababa, Ethiopia

Declaration

I hereby declare that this thesis is the culmination of my original work and represents my own intellectual contributions. It has not been previously presented or submitted in any form to any other university or institution. Furthermore, I acknowledge and have duly credited all sources of materials used in this thesis through appropriate citations and references.

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Certification

This is to certify that Desalegn Demis has carried out his research work on the topic entitled “Impact of taxpayers’ perception of fairness on tax compliance attitude: Evidence from categories A and B taxpayers in Bahirdar”. The work is original in nature and is suitable for the submission for the reward of MBA Degree in Finance.

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MBA Program

Effect of taxpayers' perception of fairness on tax compliance attitude: Evidenced from categories A and B taxpayers in Bahirdar

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Abstract

This study investigates the determinants of voluntary tax compliance attitudes among taxpayers in the context of the business profit tax system. Utilizing logistic regression analysis and in-depth interviews, the research examines the impact of fairness perceptions, demographic characteristics, and business status on compliance attitude. Findings reveal significant positive associations between exchange, inter-group, procedural, and retributive fairness perceptions with voluntary compliance attitudes. Moreover, individuals in managerial status and those with combined ownership and managerial responsibilities demonstrate higher compliance likelihoods. Education level emerges as a critical determinant, with higher education associated with increased compliance. Age also influences compliance positively. Notably, the study emphasizes the importance of fairness perceptions and demographic characteristics in shaping compliance behaviour. Recommendations are provided for policymakers and tax authorities to enhance compliance through targeted interventions and educational programs.

Keywords; fairness perception, compliance, tax, perceived usefulness, retributive fairness, exchange fairness, time related fairness, inter group fairness, procedural fairness, vertical fairness, horizontal fairness

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Acronyms

AICPA- American Institute of Certified Public Accountants

GDP- Gross Domestic Product

HGER- Assessment Report of the Homegrown Economic Reform

MoF-Ministry of Finance

OECD- Organization for Economic Cooperation and Development

OLS- Ordinary List Square

PLS- Partial Least Squares

PLS-SEM- Structural Equation Model -Partial Least Squares

SEM- Structural Equation Model

VIF- Variance Inflation Factor

Chapter One

1. Introduction

Fairness in taxation is a concept that is often challenging to define precisely. It pertains to a situation where taxpayers are taxed in accordance with their financial capability (Lymer and Oats, 2009). Fairness, in this context, refers to individuals' judgments based on actual or perceived comparisons involving oneself or others (Van den Bos et al., 2006; Folger & Cropanzano, 2001, 1998). The perception of fairness is crucial for the legitimacy of the tax system as it directly influences taxpayers' willingness to pay taxes or engage in tax evasion, and affects their trust in authorities and the overall legitimacy of the system (Kazemi, 2008). A fair tax system is one where the burden of taxation is primarily borne by individuals who are more financially capable and well-off. Perception of fairness encompasses any aspect of the tax environment that is perceived as fair based on established norms or standards, and it is recognized as a fundamental attribute of a well-functioning tax system (Mascagni, 2014). Moreover, fairness perception plays a significant role in taxpayers' reporting behavior (Kirchler, 2007; Jimenez and Iyer, 2016; Machogu and Jairus, 2013). The virtuous attitudes and perceptions of taxpayers are vital for the proper implementation of tax laws and can increase tax revenues (Yonas, 2016). Conversely, if a tax system is perceived as unfair, it can encourage taxpayers to evade tax payments, undermining the overall effectiveness of the tax system (Richardson, 2006; Slemrod, 2015).

Tax compliance is defined as taxpayers' ability and willingness to comply with tax laws by correctly declaring their income and paying the appropriate amount of taxes in a timely manner (Palil & Mustapha, 2011; Kirchler et al., 2006). Compliance with the tax system poses a challenge in both developed and developing nations. Tax noncompliance is a growing and persistent problem that requires immediate attention (Gomez and Rosen, 2001). Previous studies have consistently identified fair taxation systems and taxpayers' perception of fairness as key determinants of voluntary tax compliance and essential principles of a good tax system. While some studies abroad have examined taxpayers' perceptions of the fairness of tax systems and

their importance in achieving taxpayer compliance (Dea, 2011), there is still a need for more comprehensive and up-to-date research on this topic. In particular, very few studies Getachew (2019); Dea (2011); Belay and Viswanadham (2013) and Yesegat and Fjeldstad (2016), have investigated the impact of taxpayers' perception of fairness on tax compliance in Ethiopia. However, previous studies did not fully consider how perceptions of tax fairness influence voluntary compliance behavior, nor did they include all dimensions of tax fairness to assess the system's overall fairness. This gap highlights the need for further investigation to clarify these aspects and improve our understanding. Therefore, this study aimed to explore the impact of taxpayers' perception of fairness on tax compliance and fill the aforementioned research gap. Recognizing the crucial role of perception in taxation, the research aims to measure the level of perceived fairness among Category A and B taxpayers in Bahirdar city.

1.1. Problem Statement

Taxation encompasses numerous aspects of justice and fairness, including perceptions regarding tax burdens, benefits, treatment, procedures, sanctions, and the impact of inflation over time. Among the socio-behavioral factors linked to tax compliance, fairness perception stands out (Maroney et al., 1998), as it significantly influences taxpayers' willingness to comply with tax regulations and fulfill their tax obligations. The fairness perception of taxpayers towards the tax system has garnered significant interest for empirical research (Susilawati et al., 2013; Sapiei et al., 2014).

Ethiopia's tax-to-GDP ratio consistently falls below the averages observed in developed countries, developing countries, and even the Sub-Saharan region's average tax systems. Additionally, according to the Assessment Report of the Homegrown Economic Reform (HGER) Agenda (2019-2022) from the Ministry of Finance (MOF), the share of direct and indirect tax revenue as a percentage of GDP has shown a steady decline in recent years. Beginning at 10% in 2018/2019, it dropped to 9.2% in 2019/2020, further declining to 8.3% in 2020/2021, and continuing the trend with a decrease to 7.1% in 2021/2022. This trend indicates a concerning pattern of diminishing tax revenues relative to the country's GDP, reflecting a low tax revenue performance by the Ethiopian government. Consequently, the low tax-to-GDP ratio suggests that the government could enhance its tax revenue-raising capacity. Therefore, understanding

taxpayers' perceptions of taxation is crucial for enabling the government to provide its services more effectively to the general public (Martin et al., 2010). Recognizing the importance of this understanding, this study aims to delve into taxpayers' perceptions of fairness in the tax system.

The existence of high levels of noncompliance is assumed to be caused by excessive enforcement mechanisms and the neglect of behavioral aspects, such as fairness perception in tax compliance decision-making, particularly regarding business income tax (Belay and Viswanadha, 2016). Taxpayers may perceive the tax system as unfair if they believe they are paying more than what they receive from the government, relative to their previous tax burdens, or in comparison to what other taxpayers are paying (Ahmed and Kedir, 2015). Alm and Torgler (2011) discuss fairness perception as an individual-based ethical dimension that influences voluntary compliance. Positive fairness perceptions among taxpayers regarding the distribution of tax burdens and benefits are essential for the effective functioning of the tax system (Mohammad, 2017) and play a role in mitigating tax avoidance and evasion.

Factors such as a lack of clear understanding of the tax system, negative perceptions, hostility between taxpayers and tax authorities, and a lack of confidence in government spending contribute to noncompliance (Debere, 2014). Taxpayers are more inclined to comply with tax laws when they possess a positive attitude towards tax payment and perceive the system as fair (Fochmann et al., 2010). Additionally, previous researchers have consistently found a positive association between fairness perception and tax compliance, highlighting the importance of fairness perception as a recurring theme (e.g., Bordignon, 1993; Cowell, 1992; Schweitzer & Gibson, 2008; Slemrod, 2007; Gilligan and Richardson, 2005).

Business profit tax being one of the major revenue bases, a thorough understanding of business profit taxpayers' fairness perceptions would assist tax authorities in improving the tax system, narrowing the tax gap, encouraging compliance among business profit taxpayers, and consequently mobilizing adequate tax revenues in a democratic process. This problem together with the knowledge gap reported in chapters two necessitated the conduct of this research.

1.2. Broad Research Objectives and Hypotheses

The general objective of the study was to investigate the impact of taxpayers' perception of fairness on compliance behaviour.

The following hypotheses were formulated to achieve the general research objective. These hypotheses were developed based on the theoretical foundation primarily provided by Getachew (2019) and Saad (2011), focusing on the areas of fairness perceptions and compliance behaviour.

H1: Exchange fairness perception has positive and significant effect on compliance behaviour.

H2: Inter-group fairness perception has positive and significant effect on compliance behaviour.

H3: Procedural fairness perception has positive and significant effect on compliance behaviour.

H4: Horizontal fairness perception has positive and significant effect on compliance behaviour.

H5: Vertical fairness perception has positive and significant effect on compliance behaviour.

H6: Time-related fairness perception has positive and significant effect on compliance behaviour.

H7: Retributive fairness perception has positive and significant effect on compliance behaviour.

H8: Demographic factors significantly affect compliance behaviour.

In addition to the above hypotheses, to achieve the research objective fully, the following specific research question (RQ) was developed.

RQ1: How does the perception of fairness among Category A and B taxpayers influence their attitude towards tax compliance?

1.3. Significance of the Study

This research holds significance for various tax stakeholders and entities. Firstly, it provides valuable insights to tax authorities regarding the perceived fairness of tax burdens, enabling them to address any shortcomings and enhance taxpayer compliance.

Secondly, it offers taxpayers a platform to express their views on tax fairness directly to the tax authority, fostering transparency and trust.

Thirdly, it raises awareness among accountants and auditors about fairness issues in the tax system, enabling them to better advise clients or employers.

Lastly, it contributes to the body of knowledge in taxation, providing a foundation for further research on fairness perception and tax compliance.

Overall, the significance of this study extends beyond its immediate findings, offering practical implications for tax stakeholders, policymakers, practitioners, and researchers alike.

1.4. Scope and Limitation of the Study

Due to constraints such as time, budget, and the complexity of the population, this study is limited to examining category 'A' and 'B' business income taxpayers' perceptions of tax system fairness and its influence on voluntary compliance behaviour in Bahirdar city. The analyses and findings are confined to these selected taxpayers within the chosen case study area. Acknowledging the importance of understanding taxpayers' perception and compliance, this study focused solely on fairness perception and its impact. While the need to cover all taxpayer types is recognized, only category 'A' and 'B' taxpayers were investigated.

1.5. Organizations of the Study

This study comprises five chapters. Chapter one introduces the background, problem statement, objectives, and hypotheses and questions. Chapter two reviews the existing literature on taxpayers' perceptions of fairness and their impact on voluntary tax compliance attitudes. Chapter three outlines the research design and methodology. Chapter four presents data analysis and findings. Finally, chapter five summarizes the findings, draws conclusions, and offers recommendations.

Chapter Two

2. Literature Review

This chapter offers a background on existing literature, theories, and empirical studies concerning taxpayer perceptions of fairness and their influence on compliance behaviour. It is divided into four sections: theoretical review, empirical review, conceptual framework, and knowledge gap with conclusions. The theoretical review lays the groundwork for understanding fairness perceptions, while the empirical review summarizes previous studies. The conceptual framework integrates theories and empirical findings, while the knowledge gap and conclusions identify research gaps and offer closing remarks.

2.1. Theoretical Review

The theoretical review section examines relevant theories that contribute to a better understanding of the study topic. It explores existing theories, concepts, and their interrelationships to enhance comprehension of the research area.

2.1.1. Definition of Tax Fairness Perception and Compliance

Tax is a compulsory levy imposed by the government or tax-raising bodies on income, expenditure, or capital assets, without receiving anything specific in return (Lymer & Oats, 2009). The Organization for Economic Cooperation and Development (OECD, 2016) defines tax as "compulsory, unrequited payments to general government." Tax fairness perception refers to individuals' subjective evaluation of the fairness and equity of the tax system, encompassing their beliefs about the distribution of tax burdens and benefits, as well as the fairness of tax laws and enforcement procedures (Schweitzer & Gibson, 2008). Tax fairness perception is individuals' subjective views on the fairness and equity of the tax system, while tax compliance perception relates to their perceptions of the legitimacy and effectiveness of tax laws and enforcement mechanisms. Both aspects influence taxpayers' attitudes and behaviors towards taxation.(Schweitzer & Gibson; 2008). The meaning of tax compliance has been defined in various ways. Mohmad (2010), defines tax compliance as the degree to which a taxpayer complies or fails to comply with the tax rules of their country. According to Marti (2010), tax compliance is fulfilling all tax obligations as specified by the law freely and completely.

Andreoni, Erard, and Feinstein (1998) claimed that tax compliance should be defined as taxpayers' willingness to obey tax laws in order to obtain the economic equilibrium of a country.

According to the behavioural approach, tax compliance behaviour can be defined in various ways. Jackson and Milliron (1986) describe it as accurately filing tax return forms, timely payment of taxes, and doing so without enforcement efforts from revenue authorities. Compliance with tax obligations involves citizens willingly cooperating with the government by filing accurate and honest tax returns without the need for government intervention (Kagan, 2020).

2.1.2. Tax Compliance Theories

The issue of tax compliance is a major tricky for many tax authorities, and it is not an easy task to persuade taxpayers to comply with tax requirements even though “tax laws are not always precise” (James & Alley, 2004). Tax compliance is a contemporary issue, particularly in developing countries, as it aims to improve and optimize the collection of government revenue to support their budgets (Maseko, 2014). It has gained significance for individuals and firms in both developed and developing nations, highlighting the responsibility of taxpayers to report income and determine tax liabilities (Inasius, 2019). Roth et al. (1989) propose that tax compliance occurs when all required tax returns are filed on time, and the forms accurately report tax liabilities in accordance with relevant tax laws, regulations, and court decisions.

2.1.2.1. Natures of Voluntary Tax Compliance and Non-Compliance

Kirchler (2007) defines voluntary compliance as the trust-based cooperation between taxpayers and tax authorities, where taxpayers willingly and independently comply with relevant tax regulations and directives.

James et al. (2003) describe voluntary tax compliance in terms of taxpayers' adherence to tax laws and the measurement of non-compliance known as the tax gap.

According to James and Alley (2003), voluntary tax compliance refers to individuals' willingness to comply with both the spirit and letter of tax laws and regulations without the need for enforcement activities.

Ahmed and Kedir (2015) state that voluntary tax compliance involves taxpayers' willingness to respect tax laws by accurately disclosing taxable bases, correctly calculating tax obligations, promptly filing returns, and timely paying the amount due. Voluntary compliance is influenced

by ethical considerations, legal systems, and contextual factors (Palil & Mustapha, 2011; Kirchler et al., 2006). It compliance encompasses cognitive, affective, and conative components that shape individuals' understanding, emotions, and behavior towards taxes (Hidiyat et al., 2014).

Noncompliance (Alm, 1991) refers to individuals' failure to fulfil their tax obligations. It can be categorized into three types: filing noncompliance (failure to report and file returns, leading to a tax gap), non-payment noncompliance (delay or failure to pay taxes on time), and tax underreporting (intentional reporting of less income or revenue to reduce tax liability).

Tax noncompliance encompasses various behaviours, such as failure to file returns, understatement of revenue, overstatement of deductions, and failure to pay assessed taxes by the due date (Kasipillai & Abdul-Jabbar, 2006). Dissatisfaction with the fairness of the tax system is a significant driver of tax noncompliance (Chau & Leung, 2009), which can result in reduced revenue, labour market disruptions, and state instability (Ahmed & Kedir, 2015).

It is essential to distinguish between tax noncompliance, tax evasion, and tax avoidance. Tax noncompliance includes both intentional and unintentional failures to meet tax obligations, while tax evasion refers to deliberate criminal non-fulfilment of tax liabilities. Tax avoidance, on the other hand, involves legally reducing tax liabilities through methods such as refraining from purchasing taxable goods (James, Hasseldine, Hite & Toumi, 2001). Tax noncompliance is the failure of taxpayer to meet tax obligations whether the act is done intentionally or unintentionally and this may occur through failure to file tax returns, misreporting taxable income or misreporting of allowable subtractions from taxable income or tax due such as exemptions, deductions, tax credit Kirchler, (2007); Roth, Scholz&Witte, (1989). Tax noncompliance is a universal phenomenon hindering efficient tax revenue productivity in both developing and developed countries (Alabede, Ariffin&Idris, 2011).

2.1.2.2. The Relevance of Understanding Tax Compliance

James et al. (2003) note a shift towards treating taxpayers as customers who may require specific forms of assistance and support. Lemessa (2005) emphasizes the importance of addressing compliance risks through targeted strategies when voluntary compliance is not achieved.

The decision between compliance and non-compliance may depend on factors such as opportunity, convenience, or interpretation of the law (Smith and Kinsey, 1987). However, regardless of justifications, taxation fails if taxes are avoided or evaded (Shultz and Harriss, 1949). Taxation is an essential aspect of governance, but gaps in voluntary compliance persist, particularly in underdeveloped countries like Ethiopia.

Many citizens view taxes as necessary but unavoidable burdens, underscoring the significance of voluntary compliance in ensuring the efficiency and effectiveness of tax systems. Various socio-cultural, political, legal, and administrative factors influence voluntary compliance behavior, as highlighted in the literature.

2.1.2.3. Tax Compliance Behaviour Models

The compliance model provides a structured approach to understand and improve taxpayers' compliance behaviour. It helps identify the factors that influence taxpayer behaviour and allows for the application of appropriate compliance strategies (Orkaido, 2018).

Economic deterrent model

The model assesses an individual taxpayer's choice regarding whether and to what extent to engage in tax evasion by underreporting income. It forecasts tax evasion by considering the advantages compared to the anticipated costs of detection and punishment. As per Allingham and Sandmo (1972), taxpayers will opt for tax evasion if it maximizes their expected profit. They conclude that higher penalties and increased detection probabilities result in more income being reported. This economic deterrence model perceives taxpayers as rational actors who evaluate the benefits of evasion (determined by tax rates) against the costs (determined by detection probabilities and penalties). The decision to comply hinges on whether the costs of noncompliance surpass the benefits (Walsh, 2012).

Social models

Insights from the social realm have contributed significantly to our understanding of tax compliance levels, as demonstrated by studies such as Alm et al. (1999) and Cullis and Lewis (1997). These models emphasize that tax compliance is influenced by the social environment and prevailing conventions.

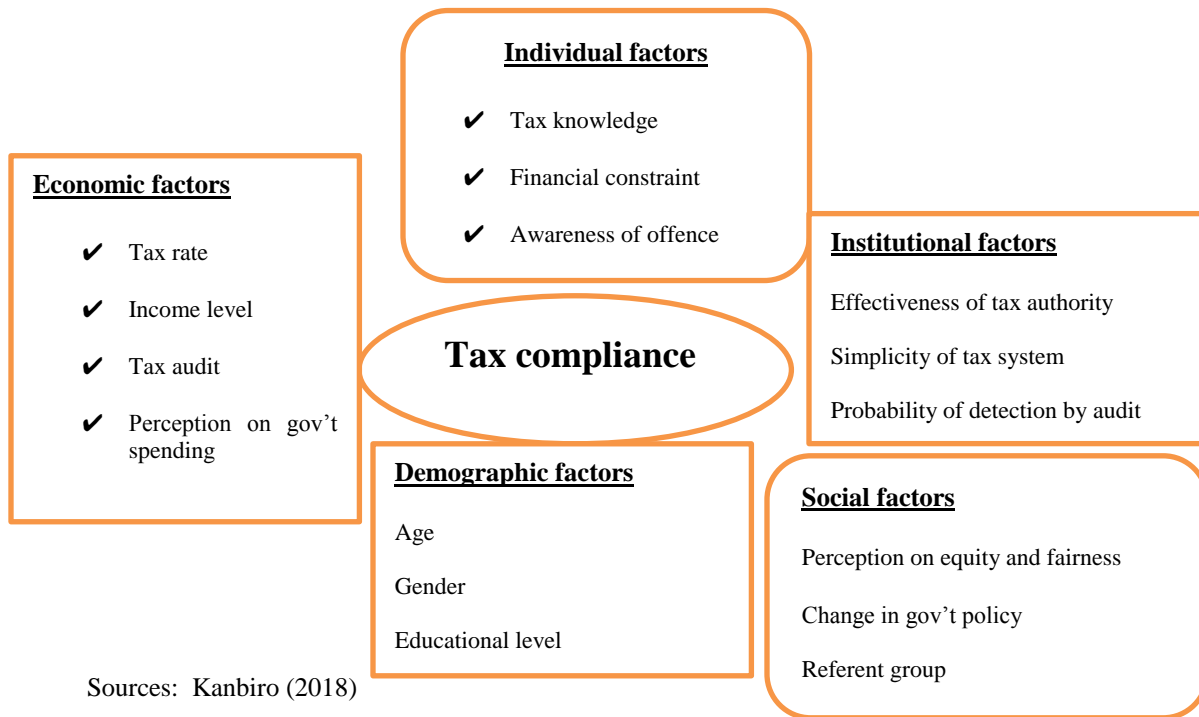
The theory posits that taxpayer compliance behavior is shaped by the fairness of the tax system and the impact of referrals. Fairness in the tax system entails equity and impartiality. Additionally, the influence of one individual on another within social interactions is crucial for their existence within society. The perception of peers not complying with tax laws can lead to non-compliance among taxpayers (Hai T, 2011). Decisions regarding compliance are sometimes influenced by family members and friends (Ajzen & Fishbein, 1980). Behavioral research conducted by Puspitasari and Meiranto (2014) highlights the significant impact of peer groups on individual behavior, preferences, and personal values. Another aspect of this theory suggests that perceptions and attitudes toward tax systems and compliance behavior may be influenced by the conduct of an individual's peer groups.

Psychological model

The psychological model rests into psychological variables, encompassing moral values and perceptions of fairness regarding the tax system and tax authorities (Devos, 2014). Yesegat and Fjeldstad (2016) underscore the significance of the social psychology model, which diverges from the economic deterrence model by highlighting the interplay between tax compliance and social interactions and norms.

Trivedi and Shehata (2005) elaborate on psychology theories of tax compliance, asserting that psychological factors, including moral and ethical considerations, hold sway over taxpayers' behaviors. Taxpayers may choose to comply even when the risk of audit is low, as psychological studies in this realm prioritize altering individual attitudes toward the tax system over emphasizing audits and penalties.

Figure 2.1: Determinants of voluntary tax compliance attitude with taxation



2.1.3. Nature of a Fair Tax System

Tax fairness is a fundamental concept that emphasizes the equitable treatment of all citizens within a government's tax system. It aims to strike a balance between what is fair to individuals and what is fair to society as a whole. A fair tax system is that which considers the interests of both taxpayers and the tax authorities. It is widely agreed that a fair tax system should require taxpayers to contribute to the cost of public services based on their ability to pay. Achieving fairness in the tax system is crucial for ensuring voluntary compliance and maintaining a harmonious relationship between taxpayers and the government (Chau and Leung, 2009).

A fair, transparent, accurate, and effective tax system is essential for a government to administer, collect, modify, and manage taxes within a country (Harmonious, 2016). Such a system must promote a reasonable and equal distribution of income and instil confidence in voluntary compliance by taxpayers (Eckstein, 1979; Wallschutzky, 1995).

The presence of a fair tax system significantly influences taxpayers' reporting behavior (Kirchler & Scabmann, 2008). Even Adam Smith, a renowned political philosopher and economist, recognized the importance of a fair tax system. He argued that taxpayers should contribute to the

development of their state based on their ability to pay or in exchange for the benefits they derive from government projects and development (Adam Smith et al., 2015). A good tax system is one that incorporates fairness as one of its core attributes (Tan and Chin-Fatt, 2000). It is essential for fostering trust, compliance, and a sense of justice among taxpayers. Perceptions of unfairness in the tax system may arise when taxpayers feel they are overpaying taxes compared to the value of the services provided by the government or in comparison to what other taxpayers contribute (Chau and Leung, 2009).

2.1.3.1. Dimensions of tax fairness

Saad (2011) identified seven important dimensions of taxpayers' fairness perception:

General fairness: Refers to the overall evaluation of the fairness of the income tax system as a whole.

Exchange fairness: Focuses on the reciprocal exchange between taxpayers and the government. It relates to whether taxpayers perceive that they receive adequate public goods and services in return for their tax contributions.

Horizontal fairness: Deals with equal tax treatment among taxpayers in similar economic positions. It entails the belief that individuals with similar incomes should pay the same amount of tax.

Vertical fairness: Assessed based on the ability to pay principle and the preference for tax rate structure. It involves determining the fairness of the tax burden in relation to taxpayers' income or wealth levels. This dimension considers whether tax rates should be flat or progressive.

Retributive fairness: concerns the fairness of punishments imposed for non-compliant behaviour. It relates to whether the penalties imposed for violating tax rules are perceived as proportional and appropriate.

Personal fairness: Leads individuals to assess whether the income tax system is favourable to them personally. It involves subjective judgments about the fairness of the tax system based on individual circumstances.

Administrative fairness: Relates to both the content of the tax law (policy fairness) and the procedures employed by the tax authority (procedural fairness). It focuses on whether tax laws and administrative processes are perceived as fair and just.

According to the American Institute of Certified Public Accountants, there are seven dimensions of tax fairness (AICPA 2007).

Exchange fairness: Taxes are prices paid for essential public goods and services provided by governments. Exchange fairness means that, over time, taxpayers receive adequate public services in return for their taxes. This does not imply an exact match between taxes paid and benefits received at any given time.

Inter-Group fairness: Implies that no group is favoured to the detriment of another without good cause. It emphasizes equity between different groups of taxpayers.

Process or Procedural fairness: Involves three key aspects: a) Political processes that allow taxpayers to influence tax policies, b) Safeguards that permit taxpayers to challenge tax assessments, and c) Treatment of taxpayers with respect and assistance in meeting their tax obligations.

Horizontal fairness: Suggests that taxpayers with equal amounts of income or property should pay the same amount of tax. It emphasizes equal treatment for taxpayers in similar economic positions.

Vertical fairness: Stresses that the tax burden should be based on the taxpayer's ability to pay. It justifies progressive tax rate structures where tax rates increase as income or wealth levels rise.

Time-Related fairness: It reflects individuals' perception of the appropriateness of their total tax obligation over the long run, considering fluctuations in income or wealth and whether taxes are levied at convenient times for payment.

Retributive fairness: Relates to the perceived fairness of penalties and sanctions imposed for non-compliant behaviour. It focuses on whether the punishment matches the severity of the offense committed.

Perceptions of taxpayers on these dimensions highlight and influence on tax compliance behaviour.

2.1.3.2. Perception of Tax Fairness

Perceptions of fairness play a significant role in tax compliance. When taxpayers perceive the tax system as unfair, it can evoke strong personal emotions and lead to attempts to avoid paying taxes (Bradley, 1994). Fairness perceptions in taxation can be understood through different dimensions.

Reciprocal equity: This dimension is based on the idea that individuals will respond fairly if they are treated fairly by others. It involves the perception that one's contributions should be proportional to the benefits received. Allocation equity: Also known as indirect exchange, this dimension focuses on the one-way distribution of resources within a group or circle of recipients. It involves the belief that resources should be allocated appropriately among unequal individuals or groups.

Within the tax system, fairness perceptions are often categorized into horizontal equity and vertical equity. Horizontal equity refers to treating equally circumstanced individuals equally, meaning taxpayers with similar economic positions should pay the same amount of tax. Vertical equity involves providing suitable differentiation among unequal individuals, such as higher-income earners paying a higher proportion of taxes (Porcano & Price, 1992).

Kazemi (2008) developed a multi-faceted fairness framework that relates fairness perceptions to tax attitudes and voluntary tax compliance. The framework includes four justice aspects:

Distributive justice: This aspect focuses on the perceived fairness of resource allocation within society, such as subsidies, education, and healthcare. It relates to how societal resources are allocated among citizens.

Procedural justice: This aspect examines the formal structural aspects of tax decision-making, including consistency, bias suppression, accuracy, correct ability, and ethicality.

Interpersonal justice: This aspect pertains to the informal communicative aspects of justice, focusing on how authorities are perceived as considerate, respectful, and treating citizens with dignity.

Informational justice: This aspect involves the explanations provided by tax authorities regarding tax decisions, legislation, and the justification of tax shares and penalties. Other concepts relevant to the theoretical framework include uncertainty, trust, and legitimacy.

Perceptions of equity or fairness are fundamental principles of a taxation system and can be perceived through three dimensions: horizontal equity, vertical equity, and exchange equity (Wallschultzky, 1984). The perceived fairness of the tax system also influences the inclination towards tax evasion (Jackson & Milliron, 1986; Richardson, 2005).

Tax fairness perceptions significantly impact tax compliance. If taxpayers perceive unfairness in the tax system, they are more likely to engage in tax evasion (Vogel, 1974; Thomas, 2012; Jackson & Milliron, 1986). Dissatisfaction with the fairness of the tax system has been identified as a major cause of increased tax non-compliance (Chau & Leung, 2009).

Perceived fairness of tax burdens is framed by two dimensions: exchange equity (benefits received for taxes paid) and vertical equity (distribution of tax burdens across taxpayers) (Kinsey et al., 1991). Perceptions of fairness have implications for individuals' private and public lives. Perceived fairness influences support for systems and is linked to actions and evaluations in various domains, including politics (Lind, 1980; Rasinski & Tyler, 1988).

Fairness perceptions are considered a prerequisite for taxpayers' compliance in the tax system, with evidence suggesting that fairness perceptions are more influential than tax rates themselves (Etzioni, 1986). Tax fairness perceptions encompass various aspects, including whether the rich pay their fair share, whether individuals should be taxed according to their earnings, and perceptions of tax evasion by others (Thomas, 2012; Richardson, 2005).

Individuals' attitudes towards tax evasion also predict their compliance behaviour. Those with favourable attitudes towards tax evasion are expected to be less compliant, while those with unfavourable attitudes are likely to be more compliant (Alabede, Ariffin, & Idris, 2011).

Taxpayers' perceptions of fairness have been extensively studied internationally, and they are considered crucial for tax compliance. Fairness perceptions contribute to the effective functioning of the tax system, helping to mitigate tax avoidance and evasion (Susilawati et al., 2013; Sapiei et al., 2014). Torgler (2001a) emphasizes the importance of fairness perceptions in influencing taxpayers'

compliance behaviour. If taxpayers feel they are overpaying taxes compared to the value of services provided by the government or compared to what other taxpayers pay, it can lead to underreporting of income and tax evasion (Spicer, 1974; Song & Yarbrough, 1978).

2.1.4. Determinants of Tax Compliance Behaviour

Fischer et al. (1992) conducted a comprehensive review on the determinants of tax compliance and identified several key factors influencing taxpayer behavior. These factors can be categorized into three main groups:

Demographic Factors: These include age, gender, and education. The study suggests that demographic characteristics play a significant role in shaping individuals' tax compliance behavior.

Attitudes and Perceptions: This category encompasses the fairness of the tax system and peer influence. Fischer et al. highlighted that taxpayers' perceptions of the equity and fairness of the tax system, as well as the influence of peers, are crucial in determining their willingness to comply with tax regulations.

Tax System or Structure: Factors such as the complexity of the tax system, the probability of detection, penalties, and tax rates fall under this category. The study pointed out that a more complex tax system, higher detection probabilities, stringent penalties, and varying tax rates can significantly affect compliance behavior.

Nicoleta (2011) further categorized the determinants of tax compliance behavior into two major groups:

Economic Factors: These include income level, fines, tax rate, audit probabilities, tax benefits, tax audits, and penalties. Economic incentives and disincentives play a substantial role in shaping taxpayer behavior.

Non-Economic Factors: This group consists of attitudes towards tax, personal norms, and perceived fairness of the tax system. Non-economic factors often influence the moral and ethical considerations of taxpayers, affecting their compliance behavior.

Additionally, several studies have expanded on these categories to provide a more good understanding of the factors affecting tax compliance attitudes. For instance:

Kichler (2007), Loo (2006), and Pail (2010) identified five major categories of factors influencing tax compliance attitudes:

Demographic Factors: Age, gender, and education are again highlighted as significant demographic variables impacting compliance behavior.

Individual Tax Knowledge: Personal financial constraints and awareness of offenses and penalties play a role in shaping taxpayers' knowledge and attitudes towards compliance.

Social Variables: These include perceptions of equity and fairness within the tax system, institutional factors, changes in government policy, and the influence of referent groups. Social context and institutional trust are important determinants of compliance.

Economic Factors: This category includes tax rate, income level, tax audits, and perceptions of government spending. Economic considerations often drive the cost-benefit analysis that taxpayers perform when deciding whether to comply.

Institutional Factors: Changes in government policy and the overall structure of the tax system are crucial. Trust in government institutions and the perceived effectiveness of tax administration can significantly influence compliance.

2.1.4.1. Perceived Tax Fairness and Compliance Behavior

The role of perceptions of justice and fairness has been emphasized by various researchers, who have found that taxpayers are less likely to comply with a tax system they consider unjust, unfair, and illegitimate (Alm, Jackson, & McKee, 1993; Cowell, 1992; Falkinger, 1995; Roberts & Hite, 1994; Wenzel, 2002). While the relationship between fairness perceptions and tax compliance behaviour is complex, it is generally assumed that perceptions of fairness are positively related to tax compliance (Erich, Apolonia, & Alexander, 2006). Equity or fairness perception, as argued by Schisler (1995), is positively related to tax compliance. Falkinger (1995) suggests that the amount of tax evasion decreases with perceived equity, particularly if individuals' risk aversion increases with perceived equity. The perception of fairness has been identified as one of the most

influential factors in tax compliance and plays a significant role in tax reporting behaviour (Kim, 2002). Positive perceptions of being treated fairly and with respect by tax authorities lead to increased cooperation and compliance (Murphy & Tyler, 2008). Studies have shown that taxpayers are less compliant when they perceive unfairness in the existing tax system (Alm et al., 1993; Roberts & Hite, 1994).

Exchange Fairness Perception and Tax Compliance Behaviour

Exchange fairness is achieved when there is an equivalence of outcome/input ratios for all parties involved in the exchange (Cook & Hegtvedt, 1983). Public goods and services provided by the government can increase compliance by enhancing the perception of exchange equity. When taxpayers perceive that they receive public goods and services proportionate to their tax payments, they are more likely to perceive fairness and exhibit higher compliance (Ana & Schisler, 2003). In order to avoid evasion and improve compliance, taxpayers must have a positive perception of exchange fairness. Taxpayers must feel that, in the long run, they are getting public services worth the tax they pay. Taxpayers' insufficient perceptions of exchange fairness and a lack of representation in tax decisions discourage voluntary compliance and, in most cases, lead to revolutions (Moser, Evans and Kim 1995).

Inter-Group Fairness Perception and Tax Compliance Behaviour

Inter-group fairness perception contributes to improved compliance and trust in authorities. However, inter-group fairness alone may not lead to trust unless accompanied by other dimensions of fairness (Getachew, 2019). The shifting of tax revenues or spending mandates between levels of government is an often overlooked aspect of inter-group equity (AICPA, 2007; Getachew, 2019). Similarly Spicer M. W., (1980) examined the relationship between fiscal inequity and tax evasion. The study revealed that high income groups ("high-tax group") had the highest percentage of tax evasion cases compared to other groups ("low tax and medium tax group"). They suggested that tax evasion increases when taxpayers perceive fiscal inequity (equity) because they feel to be victimized by an imbalance of income redistributions. Spicer M. and Becker, L, (1980), in experimental research found that the amount of tax evaded increases when people are told that their tax burden is higher than that of the rest of the group.

Procedural Fairness Perception and Tax Compliance Behaviour

Fair treatment and procedural fairness influence taxpayers' voluntary compliance with tax decisions. When authorities enact procedures in a fair manner, taxpayers are more likely to

comply voluntarily (Tyler, 2006; Cropanzano, Rupp, Mohier, & Schminke, 2001; Chung & Trevi, 2003; Saad, 2014; Kim, 2002). Fairness in allocation decisions is perceived when taxpayers have the freedom to voice their opinions and when authorities make decisions accurately and without self-interest (Cremer, 2004; Magner, Johnson, Sobery, & Welker, 2000). Tax compliance increases when tax authorities are perceived as supportive, and fairness procedures are used to guarantee fair outcomes in the long term (Kirchler, Niemirowski, & Wearing, 2006). Procedural fairness is an important factor in determining the relationship between the tax authority and taxpayers (De Cremer & Tyler, 2007; Dijke & Verboon, 2010). Taxpayers who perceive fair treatment and respect from tax officers are more compliant (Wenzel, 2002). If taxpayers have perceptions that they are not well represented, they are likely to be involved in protests against the tax laws and legislation.(Getachew, 2019).

Horizontal Fairness Perception and Tax Compliance Behaviour

Horizontal equity refers to a situation where people in the same circumstances pay the same taxes (Greenlaw & Taylor, 2017). Perceptions of horizontal fairness have been shown to affect compliance positively and are significantly associated with tax compliance (Wenzel, 2003; Kirchler, 2007). Taxpayers who perceive their tax burden to be higher than others tend to be less compliant with tax laws (Kinsey, Grasmick, & Smith, 1991). However, in practice, income tax systems often breach the principle of horizontal fairness to meet economic, social, or political objectives (Holmes, 2001).

Vertical Fairness Perception and Tax Compliance Behaviour

Vertical equity refers to a situation where unequal are treated unequally based on their ability to pay (Greenlaw & Taylor, 2017). Taxpayers with higher incomes are expected to pay more tax at a higher rate than those with lower incomes (Kirchler et al., 2006). Vertical fairness also considers the benefits received by low-income earners, who not only pay less tax but are also entitled to receive more government benefits. When a tax system is perceived as inequitable and unfair, taxpayers may be more likely to evade tax payments, leading to decreased relevance and efficiency of the tax system (Richardson, 2005).

Time-Related Fairness Perception and Tax Compliance Behaviour

Time-related fairness refers to ensuring that taxes are not unduly distorted when income or wealth levels fluctuate over time. Tax liabilities based on short-term measures or changes in the general price level can lead to time-related inequities (Getachew, 2019). Improving time-related

equity within the income tax system could involve allowing taxpayers to average income over multi-year periods or adjusting provisions for inflation (AICPA, 2007).

Retributive Fairness Perception and Tax Compliance Behaviour

Retributive justice relates to the perceived fairness of audit procedures and punishments for non-compliance (Kirchler, 2007). Unfair audits and penalties can lead to negative attitudes toward tax authorities, discouraging honest taxpayers and reducing voluntary compliance (Hofmann, Hoelzl, & Kirchler, 2008). Implementing fair and equal punishment for tax violations is important to instil fairness and increase voluntary compliance (Natrah, 2011). When taxpayers perceive the penalties imposed as unfair or disproportionate, it can negatively impact compliance (Wenzel, 2002). Unfavorable retributive justice perceptions could lead to non-compliant behaviour and consequently increase tax evasion and inflate the tax gap.

2.1.4.2. Demographic Factors and Tax Compliance Behaviour

Several demographic factors have been found to influence taxpayer attitudes and voluntary compliance behaviour.

Age: Age plays a crucial role in shaping taxpayers' compliance behavior, with research showing a significant correlation between age and tax compliance (Dea, 2011; Tadesse & Goitom, 2014; 2016; Manchilot, 2018; Jackson & Milliron, 1986). Studies by Wahlund (1992) and Tittle (1980) suggest a negative relationship between age and tax compliance attitudes, indicating that older individuals tend to exhibit lower levels of compliance.

Gender: Dea (2011) explored the impact of gender on taxpayers' compliance tendencies, revealing a positive correlation between female taxpayers and compliance behavior in Ethiopia. Female taxpayers demonstrated a greater likelihood of adhering to tax regulations compared to their male counterparts. This observation is consistent with the findings of Tadesse & Goitom (2014) and Yesegat and Fjeldstad (2016), as well as Torgler (1993), who also identified a statistically significant relationship between gender and compliance attitudes, with female respondents displaying a higher inclination toward compliance.

Education level: Dea (2011) investigated how gender influences taxpayers' compliance tendencies, discovering a positive link between female taxpayers and adherence to tax regulations in Ethiopia. Female taxpayers were more inclined to comply with tax laws compared to males, echoing the results of Tadesse & Goitom (2014), Yesegat and Fjeldstad (2016), and

Torgler (1993), all of whom found a significant association between gender and compliance attitudes. Female respondents consistently showed a stronger propensity for compliance.

Income Level/Profit: In nations with insufficient income redistribution, the wealthier segment of society often exhibits greater involvement in tax evasion (Mohani, 2001). This phenomenon stems from feelings of betrayal and a perception of unfair treatment among high-income individuals. For example, Loo (2006) identified a tendency for tax evasion among affluent earners in Malaysia, while Torgler (2007) documented decreased compliance rates among lower-income groups in Western Germany.

2.2. Empirical Review

Getachew (2019) on taxpayers' perceptions in Ethiopia employed survey data coupled with in-depth interviews conducted with selected taxpayers in Addis Ababa; shows that category 'C' taxpayers have positive perceptions of vertical and inter-group fairness and negative perceptions of exchange, procedural, horizontal, time-related and compliance fairness. The researcher recommended that tax authorities and stakeholders should work together to improve and build positive perception of fairness of taxpayers. Unlike other studies, it incorporates and tried to addresses eight dimensions of tax fairness though concepts of compliance fairness lacks clarity.

Dea (2011) entitled on income tax fairness and its perceived influence on the compliance behavior of taxpayers using a descriptive method measured fairness dimensions in Ethiopian setting. The study tried to see the extent fairness perception played in ensuring compliance and concluded that age has no significant effect on compliance behavior but level of education and gender importantly affects voluntary compliance. The researcher also found as taxpayers believe that they are paying higher than what the government is providing them and they perceive the dimension of special provisions is unfair. Addressing the impacts of demographic variables is the good side of the study though it showed less conclusive results between attitudes and compliance. The researcher recommended that it is better to expand tax education to taxpayers through mass media and the kinds of deductions given should be reasonable.

Belay and Viswanadham (2013) examined the link between tax fairness perceptions and compliance behavior in Amhara Regional State, Ethiopia, using purposive sampling with 24 participants. They confirmed that fairness perception significantly affects taxpayer compliance decisions, recommending that tax authorities address perceived fairness to boost compliance.

Despite their detailed analysis, they employed a qualitative approach, suggesting a mixed-methods approach could have mitigated limitations. Their findings revealed various fairness dimensions, including general, horizontal, vertical, retributive, personal, and administrative fairness, all influencing compliance significantly.

Siahaan (2012) examined tax fairness, communication, and trust on voluntary compliance among individual taxpayers in Surabaya. The study, with 61 participants from service industries, found significant positive effects of tax fairness and highlighted trust as a crucial intervening variable. However, communication had an insignificant impact. Recommendations include investigating additional factors like gender, age, and tax morale, and conducting longitudinal studies. The study's insights into compliance dynamics are valuable, though its narrow focus and industry-specific sample may limit generalizability.

Riaz, Shafiq, Gillani, Yasin, and Kanwal (2023) examined the impact of justice perceptions on tax compliance in Pakistan, using a quantitative survey of 325 lawyers. The study found a significant positive relationship between tax compliance behavior and the perception of justice, emphasizing the importance of procedural justice and tax audits. Recommendations include enhancing cooperation between taxpayers and the government. Strength: Provides valuable insights into tax compliance dynamics. Limitation: Focuses only on lawyers, potentially limiting the generalizability of the findings.

Sidik, Zandi and Ruhoma (2019) entitled as “examining the influence of fairness perception on tax compliance behaviour of the Libya individual taxpayers: the moderating role of tax awareness and tax complexity examines the impact of the perceptions of fairness among Libyan taxpayers in the Libyan income tax system. They used the serial exploratory research design. Here they also concluded that there is a positive and significant relationship between fairness perceptions and tax compliance behaviour.

Graha, (2018) also discussed the effects of tax fairness on tax compliance with trust on tax authority as an intervening variable. Using Partial Least Squares (PLS), he discloses that tax fairness perception has a significant positive effect on trust and on tax compliance and trust in turn has a significant positive effect on tax compliance. He recommended also that tax compliance can be achieved if a tax authority can be trusted, considered trust when they manage non-compliance behaviour and the government can provide a fair tax system. The strong side of this study is it has considered the intervening roles of trust and they provide well defined

information for the government to create a fair tax system. They reviewed very limited literatures regarding the issue and unclear with those independent variables and attributes of voluntary compliance.

Ya'u and Saad (2019) using PLS path model to examine the relationship between fairness perceptions and voluntary compliance and the moderating role of trust in Nigeria reveals that fairness perceptions have a positive and significant relationship on compliance and trust moderates the relationship between fairness perceptions and voluntary tax compliance.

They recommended the government of Jigawa State Nigeria should create strong policies that will require a frequent review of the state tax policies to improve fairness from tax administrators' thereby increasing confidence of taxpayers, which can result in an increased voluntary payment of taxes. However, their study was without very brief discussions of the relationship between the three variables and the survey methodology, research design, focus, scope and tools of the analysis they used were not appropriate for the study.

Gberegbe and Umoren (2017) investigated tax fairness perception and personal income tax compliance in Ken Saro-Wiwa Polytechnic, Bori, revealing a significant relationship between them. They concluded that personal income tax compliance is influenced by exchange with the government and self-interest. Their recommendations included enhancing social benefits and employing persuasive approaches to boost compliance. However, limitations in their research approach were noted, particularly the inability to infer causality from correlated data and the study's limited scope. Their findings indicated positive significant influences of distributive, procedural, and retributive fairness, as well as overall tax fairness perception, on personal income tax compliance in Rivers State.

Al-Hamedi, Marimuthu and Al-Harethi (2020) found that general system fairness, preferred tax rate, exchange with the government, and the extent of self-interest are significantly related to income tax compliance, while special provisions do not affect compliance decisions. The study used a survey method based on the PLS-SEM. The results of the study can alert the tax authority and policymakers to consider the non-pecuniary factors, other than the measures of the coercion.

Farrar and Thorne (2016) on the individual impact of tax fairness dimensions on tax compliance: Canadian evidence, find that only horizontal equity is significantly and positively associated with

compliance in the Canadian context. They also suggest that there are four dimensions of tax fairness: horizontal equity, vertical equity, exchange equity, and procedural fairness. Although research suggests that compliance usually increases with tax fairness, little is known about the individual impact of each dimension on compliance. Accordingly, they develop measures of each dimension, and conduct a survey using Canadian taxpayers.

Alshira'h, and Jabbar (2019) examined the effect of tax fairness on sales tax compliance among Jordanian manufacturing in the case of small and medium-sized enterprises. They were used a survey method with questionnaires distributed to 660 owners-managers of SMEs in manufacturing sector. The study hypothesis was then tested using PLS software by applying structural equation models (SEMs). They conclude that tax fairness had a significant influence on sales tax compliance. Besides, the study provides valuable information as well as guidance policymakers and SMEs owner-managers to improve sales tax compliance in the future; it was only explained 24% of the total variance in sales tax compliance.

Verboon and Goslinga(2009) on the roles of fairness on tax compliance using panel survey among small business owners in Netherlands was conclude that personal norms and justice are related to tax compliance attitudes. Moreover, they confirmed that distributive fairness positively affects tax compliance attitudes. They also recommended that to promote tax compliance attitudes, authorities could take action to ensure that taxpayers perceive the tax system as fair by increasing distributive fairness perceptions. The issue they raised the roles of fairness in tax compliance were very concerned through the world. However, the study was limited to businesses with less than 50 employees and it was not much clear with the correlation between dependent and independent variables.

Faizal and Palil (2015) conducted an empirical study to examine the effect of fairness on tax compliance in Malaysia. The study specifically analyzed the impact of distributive fairness, procedural fairness, and retributive fairness on tax compliance behaviour. Using questionnaires completed by 82 academician respondents, the results revealed that while respondents generally perceived fairness as influencing tax compliance behaviour, only procedural fairness showed a positive and significant correlation with compliance. Distributive and retributive fairness, although positive, did not demonstrate a significant correlation with tax compliance.

Oseni and Ehimi (2019) investigated the effect of tax fairness on personal income tax compliance in Nigeria. Using a cluster sampling technique, 400 questionnaires were administered to taxable persons in Edo and Anambra states. Data were analyzed with Ordinary Least Square (OLS) regression. The study found a positive and statistically significant relationship between tax fairness and personal income tax compliance. It recommended penalizing non-compliant taxpayers equally and ensuring horizontal and vertical fairness in tax assessment and collection to enhance compliance. The study's strength lies in its large sample size, but it is limited by its focus on only two states.

Ali, Fjeldstad, and Sjurson (2013) investigated determinants of tax-compliance attitudes in Kenya, Tanzania, Uganda, and South Africa using 2011/12 Afrobarometer survey data. The study found that tax compliance positively correlates with public service provision, varying by service and country. Tax knowledge and awareness also enhance compliance attitudes, while frequent payments to non-state actors for security and perceptions of ethnic unfairness negatively impact compliance. The study's strength is its comparative analysis across multiple countries, but self-reported data may limit reliability. Recommendations include enhancing public services and addressing ethnic grievances to improve tax compliance.

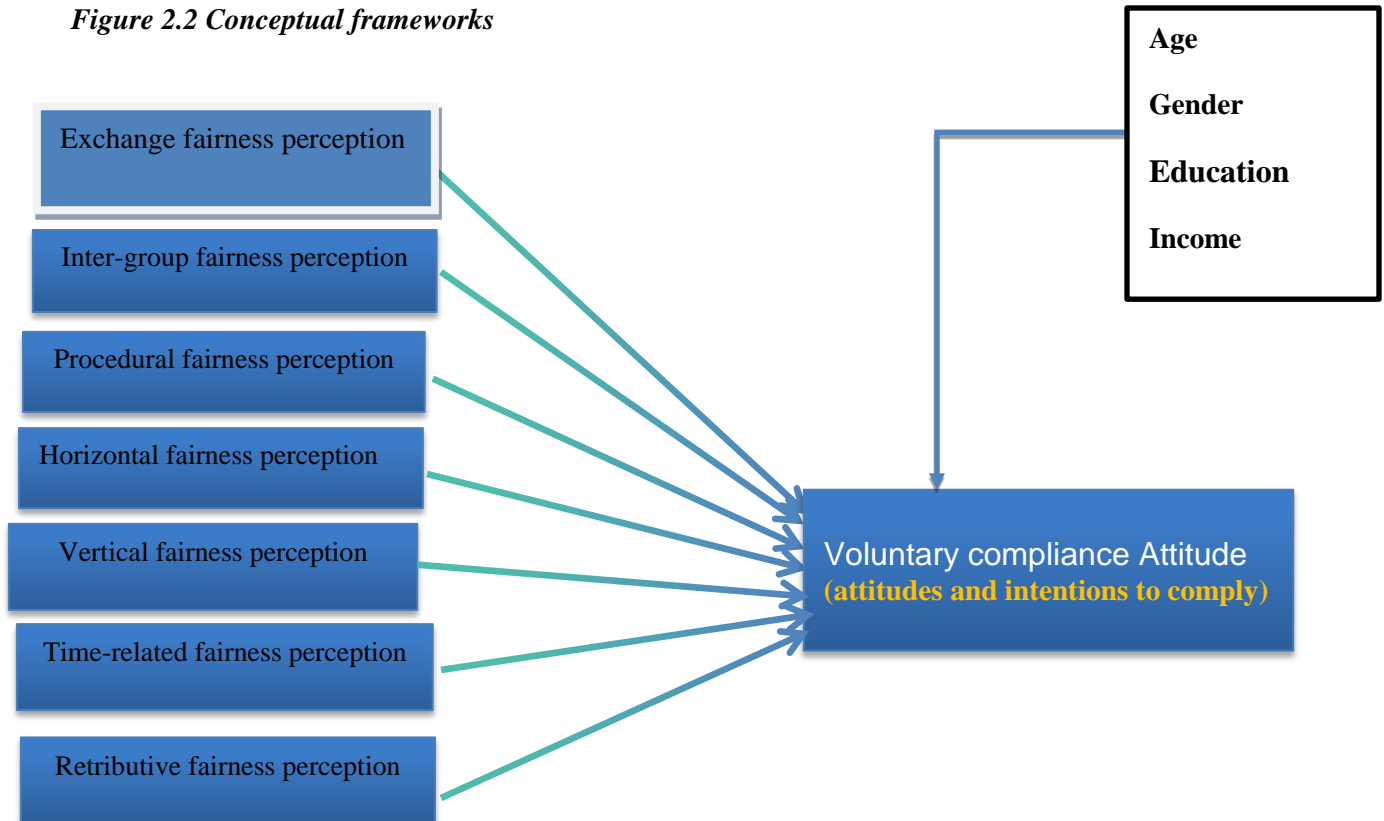
Mukasa (2008) examined the relationships between tax knowledge, perceived tax fairness and tax compliance of small and medium enterprises by adopted a cross-sectional research design, combined with qualitative (analytical and explanatory) and quantitative (descriptive and inferential) research designs found out that perceived tax fairness have a positive and significant relationship with tax compliance. The study implies that positive improvement of taxpayers' knowledge and perceptions of fairness about taxes will lead to improved tax compliance. From the findings, it recommended that much emphasis should be put to dissemination of concrete tax knowledge (technical knowledge) when conducting tax education.

Abdul (2017) examined the impact of different dimensions of tax fairness on tax compliance among medium and large corporate taxpayers in Kenya. Utilizing structural equation modelling, the study found that procedural fairness significantly influenced tax compliance. The findings suggest that policies aimed at enhancing compliance in Kenya should prioritize procedural fairness alongside other dimensions of tax fairness.

2.3. Knowledge Gap, Conceptual Framework and Conclusion

Based on the studies the researcher reviewed, there were some things we still didn't know about taxes. Some studies looked at different parts of fairness in taxes, like if they were fair when they were given out or how they were decided. Others focused on things like age, gender, and education and how they affected if people followed the tax rules. We also didn't know for sure if teaching people about taxes made them follow the rules better. Some studies said it did, but others weren't sure. Also, some studies only used one way to study, like asking questions or looking at numbers. But maybe we needed to use both to get the best answers. So, there was still a lot to learn about taxes and why people followed the rules or not. The previous studies also did not consider the influence of tax fairness perceptions on improving voluntary compliance behaviour from the tax officials' point of view. The literature review revealed the existence of limited studies and knowledge gaps in tax fairness perception in general and business profit taxpayers' fairness perception in particular. Existing studies focused on tax compliance behaviour and discussed perception of fairness as one of the determinant factors of tax compliance. They also did not include all dimensions (attributes) of tax fairness to evaluate the general fairness of the tax system. So, this study tried to fill this gap through examining the positive impacts of attitudes of taxpayers on the fairness of the tax system on compliance attitude. Furthermore, while taxpayers' perception and compliance have gained significant attention among revenue authorities in developed countries, literature and data on this topic remain scarce in Ethiopia. To the best of the researcher's knowledge, only a few studies (Aborat, 2011; Getachew, 2019; Mamo, 2017; Dea, 2011; Yesegat and Fjeldstad, 2016; Belay and P. Viswanadham, 2013) have been conducted in this area in Ethiopia. Moreover, some of these studies lacked clarity in articulating dimensions of fairness perception and lacked a common understanding. Thus, considering these knowledge gaps and building upon the findings of previous studies, the researcher aims to examine the impact of taxpayers' perception of fairness on tax compliance behavior in Ethiopia, with a particular emphasis on category A and B taxpayers in the city of Bahirdar

Figure 2.2 Conceptual frameworks



Source: Researcher modified conceptual framework based on Saad (2011) and Getachew(2019)’s study.

Chapter Three

3. Research Design and Methodology

The previous chapter discussed both theoretical and empirical studies along with conclusions and knowledge gap. The intent of this chapter was to discuss the underlining principles of research methodology and the research methods adopted to fulfil the broad research objective and research hypothesis along with justification for selecting a particular method for the study. Accordingly, the discussion in this chapter is organized as follows. Section 3.1 presents the broad research objective and specific research hypothesis. Section 3.2 outlines the research approaches; section 3.3 discusses research approach planned to be used and 3.4 data analysis and presentation. 3.5 finally depict the summary of the link between research hypotheses and data sources and conclusions of the research methodologies.

3.1. Research Objective, Hypotheses (HP) and Research Question

The general objective of the study was to investigate the impact of taxpayers' perception of fairness on compliance behavior among category A and B taxpayers in Bahir Darn City.

In alignment with the broad objective, eight hypotheses were developed to guide the research. Based on the existing theoretical and empirical knowledge, the researcher linked the independent variables with the dependent variable and formulated the following hypotheses.

Exchange fairness perception and compliance behaviour

The perception of exchange fairness significantly influences individuals' voluntary compliance with tax obligations. When taxpayers feel they receive value for their taxes, they are more willing to comply with tax requirements. On the flip side, if taxpayers perceive an unfair exchange between their tax contributions and the services provided by the government, their inclination to comply diminishes. Previous studies consistently show that perceptions of government spending and fairness positively affect tax compliance (Gberegbe, Idornigie, and Davies; 2015); Gberegbe and Umoren (2017); Mubarak, Munusamy, Abobakr and Al-Harethi (2020); and Verboon and

Goslinga(2009). These findings accentuate the importance of examining the relationship between exchange fairness perception and voluntary tax compliance. Therefore, the following hypothesis was proposed:

H1: *There is a significant relationship between taxpayers' perception of exchange fairness and compliance behaviour.*

Inter-group fairness perception and compliance behaviour

Taxpayers' positive perception of inter-group fairness significantly influences compliance and trust in authorities. When individuals perceive fairness and equity in the tax system among different taxpayer groups, it boosts their willingness to comply with tax obligations. However, inter-group fairness perception alone may not be adequate to foster trust unless accompanied by other fairness dimensions (Getachew, 2019). Hence, the following proposition was proposed:

H2: *There is a significant relationship between taxpayers' perception of inter-group fairness and compliance behaviour.*

Procedural fairness perception and compliance behaviour

Perceptions of procedural fairness significantly impact citizens' voluntary compliance with tax obligations. While disagreement with government spending may lead to tax protests or noncompliance behaviour, fair procedural practices by tax authorities enhance voluntary compliance. It is assumed that fair treatment and mutual understanding between taxpayers and tax authorities increase confidence in the tax system. Several researchers have argued that tax compliance increases when taxpayers perceive tax authorities to be supportive in the tax collection procedure (Ya'u & Saad 2019; Dijke & Verboon, 2010; Saad, 2011; Riaz, Shafiq, Gillani, Yasin, and Kanwal (2023); Faizal and Palil (2015); Gberegbe and Umoren (2017); and Belay and Viswanadham (2016),

Based on these arguments and findings, the following hypothesis was proposed:

H3: *There is a significant relationship between taxpayers' perception of procedural fairness and compliance behaviour.*

Horizontal fairness perception and compliance behaviour

Horizontal equity ensures the equal treatment of individuals who are in similar economic positions, ensuring that tax burdens are fairly distributed among them. It serves as a fundamental criterion to assess whether taxes are administered equitably, protecting taxpayers against arbitrary discrimination and upholding principles of equal worth (Afuberoh and Okoye, 2014; Musgrave, 1990).

Taxpayers may perceive disparities in the taxation of individuals in similar economic positions due to the availability of deductions. Such perceptions reflect the reality of income tax systems, where the principle of horizontal fairness is sometimes compromised to achieve social objectives (Holmes et al., 2001). Holmes et al. (2001) further suggest that compromising horizontal fairness to some extent is common in income tax systems worldwide, as other prevailing objectives or principles come into play.

Based on these considerations, the following hypothesis was proposed:

H4: *There is a significant relationship between taxpayers' perception of horizontal fairness and compliance behaviour.*

Vertical fairness perception and compliance behaviour

Vertical fairness in taxation emphasizes that taxpayers should be assessed based on their ability to pay, with a preference for a tax rate structure that reflects this principle. It suggests that individuals with higher incomes should pay a greater amount of tax, at a higher tax rate, compared to those with lower incomes (Kirchler et al., 2006). Vertical fairness also considers the benefits received by low-income earners, who not only pay less tax but are also entitled to receive more government benefits. When a tax system is perceived as inequitable and unfair, it often leads to tax evasion by taxpayers, thereby reducing the relevance and efficiency of the tax system (Richardson, 2005). The perception of an unfair tax system can undermine voluntary tax compliance.

Based on the above arguments, the following hypothesis was proposed:

H5: *There is a significant relationship between taxpayers' perception of vertical fairness and compliance behaviour.*

Time-related fairness perception and compliance behaviour

Time-related equity within the income tax system could be enhanced by allowing taxpayers to average their income over multi-year periods. Inflation gradually erodes the fairness of certain tax provisions. While many items are now adjusted annually for inflation, others are not. As a result, taxpayers may find themselves subject to higher marginal tax rates over time, not because their earnings have genuinely increased, but due to inflationary effects (Getachew, 2019; AICPA, 2007).

Smith (1986) states that taxes should be levied at the most convenient time and manner for the contributor to pay. The tax collection process should be designed to be convenient for taxpayers, such as through instalment payments or collecting land revenue at the time of harvest. This principle significantly reduces the tendency for tax evasion.

Based on these considerations, the following hypothesis was proposed:

H6: *There is a significant relationship between taxpayers' perception of time-related fairness and compliance behaviour.*

Retributive fairness perception and compliance behaviour

Retributive fairness in the social system is characterized by a belief that penalties imposed should match the severity of the committed crime, and compensation received should be equivalent to any losses incurred. It is recommended that tax authorities implement fair corrective measures in response to rule-breaking behavior. Inconsiderate audits and unfair penalties can lead to negative attitudes toward tax authorities. When tax policies and measures fail to adequately reward those who have complied with the laws, it can discourage honest taxpayers who may perceive a material disadvantage (Hofmann, Hoelzl, and Kirchler, 2008; Faizal and Palil, 2015; Kirchler, 2007; Steyn, 2015; Cook & Hegtvedt, 1983). Finally, retributive fairness is related to perception of taxpayers on suitable punishment on tax crime (Kirchler 2007). Bad perception on retributive fairness usually exists when taxpayers perceive unfairness exist and their rights are not observed when a taxpayer whom commits a wrong goes unpunished. Suitability of the punishment imposed is important to

increase retributive fairness in tax system and later increase tax compliance. Besides punishment which is a negative type of retribution, reward is a positive retribution given to compliant taxpayers which also influences compliance behaviour (Falkinger & Walther 1991; Feld et al. 2006). The following hypothesis was constructed:

Based on these considerations and previous research, the following hypothesis was proposed:

H7: *There is a significant relationship between taxpayers' perception of retributive fairness and compliance behaviour.*

Demographic variables

The impact of demographic factors on tax compliance has been studied by examining variables such as age, gender, education, and income level. Notable research in this area includes works by Jackson and Milliron (1986) and Yesegat and Fjeldstad (2016).

Age

Dea (2011) identified a positive association between older taxpayers and tax compliance behavior among individual income tax payers in Addis Ababa. Age is consistently recognized as a factor influencing taxpayers' compliance behavior. Statistical analyses from various studies indicate a significant correlation between age and tax compliance. However, contrary to common assumptions, these analyses suggest that older taxpayers tend to exhibit lower levels of compliance (Widianto, 2015; Tadesse & Goitom, 2014; Adimassu & Jerene, 2016; Manchilot, 2018).

Gender

Dea (2011) investigated the role of gender as a significant demographic factor in determining taxpayers' compliance levels. The study revealed a positive association between female taxpayers and compliance behaviour in Ethiopia, indicating that female taxpayers demonstrated a higher likelihood of complying with tax laws compared to their male counterparts. This finding is consistent with the results reported by Tadesse & Goitom (2014) and Yesegat and Fjeldstad (2016), as well as earlier studies such as Torgler (1993), which also found that gender has a statistically significant relationship with compliance attitude, with female respondents more likely to exhibit a compliant attitude.

Education level

According to the findings of Roberts (1994), Warlick (1994), Christensen et al. (1994), and Yesegat and Fjeldstad (2016), education has shown significant effects on taxpayers' compliance behavior. Providing information and clarification on tax matters can help individuals assess the fairness of the tax system, thereby enhancing fairness perception, which ultimately influences tax compliance levels. However, there is evidence suggesting a negative and statistically significant correlation between education and compliance attitude—a higher level of education was associated with a less compliant attitude. This observation is supported by Jackson and Milliron (1986) and Chau and Leung (2009).

Income level/profit

In countries where income redistribution is inadequate, there is often a tendency for the higher income group to engage in tax evasion to a greater extent (Mohani, 2001). This behavior can be attributed to a sense of betrayal and perceived unfair treatment among high-income earners. For example, Loo (2006) identified a propensity for tax evasion among high-income earners in Malaysia, while Torgler (2007) reported lower compliance levels among lower-income earners in Western Germany.

Considering these findings, it was hypothesized that demographic factors played a substantial role in shaping individuals' perceptions of fairness and their compliance behaviour.

H8: Demographic factors have a significant impact on compliance behaviour.

In addition to the above hypotheses, the study developed the following research question.

RQ: How does the perception of fairness among category A and B taxpayers influence their behaviour towards tax compliance?

3.2. Research Approach Adopted

According to Creswell (2007), researchers have three approaches to choose from when designing their research methodology: quantitative, qualitative, and mixed research approaches.

Quantitative research involves a systematic empirical inquiry where the researcher lacks direct control over independent variables, making them unable to manipulate them (Creswell, 2007). It is suitable for studying the impact of a specific variable on another while disregarding the effects of other variables (Creswell, 2003). The main advantage of this approach is the ability to generalize findings to a broader population based on the sample. This is achieved through standardized procedures in sample selection, instrument design, implementation, and analysis, enhancing reliability and minimizing biases. However, quantitative research has limitations such as inflexibility in design, potential biases from standardization, and a lack of interpretive and exploratory examination (Creswell, 2003).

Qualitative research, on the other hand, focuses on descriptive narrative and the analysis of non-numerical information (Creswell, 2007). It involves subjective assessments of attitudes, opinions, and behavior. This approach is suited when the researcher is unsure which variables to control (Creswell, 2003). Qualitative research is largely inductive, with the researcher deriving meaning from data collected in the field. It allows for exploration, interpretation, and description of a situation, offering flexibility and depth of understanding (Creswell, 2003; Creswell, Wimmer, and Joseph, 2006). However, it has limitations such as time-consuming nature, less objectivity due to lack of standardized rules, potential bias from the researcher's perspective, and limited generalizability (Creswell, 2003).

To address the limitations of both approaches, the mixed methods approach combines quantitative and qualitative research designs. It aims to draw from the strengths and minimize the weaknesses of each approach (Sale et al., 2002). By using a pragmatic knowledge approach, researchers can achieve a more comprehensive understanding of a phenomenon. The mixed methods approach involves philosophical assumptions and methods of inquiry, combining qualitative and quantitative approaches throughout the research process (Creswell and Clark, 2007). In this study, a parallel (concurrent) mixed method design was utilized to investigate the impacts of taxpayers' perception of fairness on tax compliance. This approach was expected to provide well-accepted and substantiated findings while saving time compared to using either approach alone (Shorten and Smith, 2017).

3.3. Research Approach Used

The study aimed to assess the impact of taxpayers' perception of fairness on compliance behaviour among category A and B business income taxpayers in Bahir Dar City.

Considering the nature of the study and the discussions on research approaches, a mixed methods research approach was employed. The rationale for this choice lies in the belief that combining quantitative and qualitative approaches provides a more comprehensive understanding of research problems compared to using either approach alone. Greene et al. (1989) highlighted several benefits of adopting a mixed methods approach. Firstly, triangulation enables researchers to seek convergence and corroboration of results from both quantitative and qualitative methods, increasing the validity of constructs and inquiry outcomes. Secondly, by mixing methods complementarily, the researcher seeks to elaborate, enhance, illustrate, and clarify results from one method using the results from the other. Thirdly, the researcher utilizes the findings from one method to inform or develop the other method. Lastly, a mixed methods approach with expansion intent allows for the broadening of the inquiry scope by employing different methods for different analysis components. It is important to acknowledge the value of all methods when used appropriately and recognize that research can integrate elements from both qualitative and quantitative approaches, with careful management. By adopting a mixed methods approach, the study aimed to leverage the benefits discussed earlier and mitigate bias associated with relying solely on one approach.

3.3.1. Quantitative Aspect of the Study

According to Leedy and Ormord (2005), survey research is the most common and cost-effective quantitative strategy for conducting business research. Surveys are a form of descriptive research that allows for data collection at a specific point in time to describe existing conditions. The adoption of a survey design in this study is beneficial as it enables representation of a wider population, provides descriptive, inferential, and explanatory information, allows for one-time data gathering, and facilitates the collection of information not available in archive records (Yesegat et al., 2009).

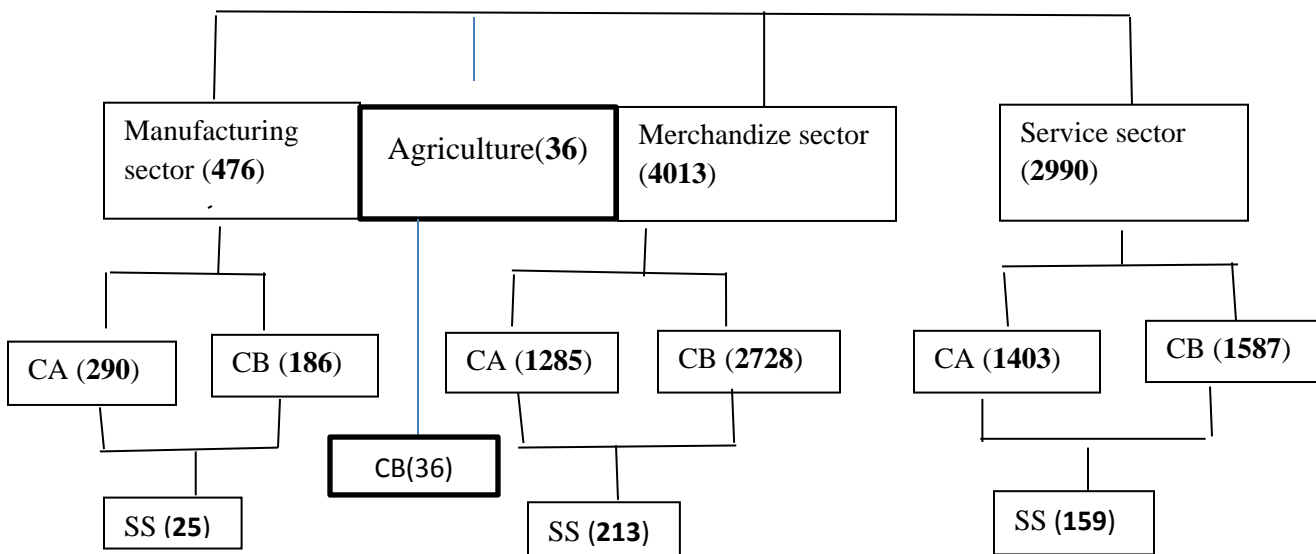
To generalize the findings, a survey design was employed in this study, utilizing a combination of structured and unstructured questionnaires as well as interviews.

3.3.1.1. Population and Sampling Design

In this study, the population consists of category 'A' and 'B' taxpayers of Bahir Dar city, as they are legally required to declare income, maintain accounting records, and submit to the tax authority within the specified time frame. Category 'C' taxpayers, who pay taxes based on the assessment committee's estimation, were not covered in this research as noted in chapter one. Samples represent the target population and are used to understand the population from which they are drawn (Maylor and Blackmon, 2005).

The sample size in this research study refers to the number of category 'A' and 'B' taxpayers participating in the study. Both purposive (considering taxpayers who do not pay the proper amount of tax, do not pay on time, and declare taxes during the last days) and convenience (based on the availability of taxpayers) sampling techniques were employed. According to the Bahir Dar City Administration Revenue Authority's annual report (2023), there were 7,515 active category 'A' and 'B' taxpayers in the area as of June 2023. The sample size was determined using the Yamane (1967) formula. Strata were formed based on common characteristics, such as the type of business (e.g., manufacturing, merchandise, agriculture and service sectors). Simple random sampling was used with proportional allocation, ensuring appropriate sample sizes for each stratum.

Figure 3.1: Sample size selection procedures, using stratified sampling



Note that: CA (Category A), CB (Category B) and SS (Sample size from each category)

$$n = \frac{N}{1+N(e^2)}$$

Where;

n=Sample size
N=Total taxpayers
E=Level of precision

$$\frac{7515}{1+7515(0.05)^2} = \underline{\underline{399}}$$

Then, the number of sample in each selected sector given its respective proportion is determined:

$$n_i = \frac{N_i}{N} \times n_s$$

Where, Ni= taxpayers in each sector, i 1, 2, 3

Where;

n1=Sample taxpayers in manufacturing sector;
n2=Sample taxpayers in agriculture sector;
n3=Sample taxpayers in trade sector;
n4= Sample taxpayers in service sector;

$$n1 = \frac{476}{7515} * 399 = \mathbf{25} \quad n2 = \frac{36}{7515} * 399 = \mathbf{2} \quad n3 = \frac{4013}{7515} * 399 = \mathbf{213} \quad n4 = \frac{2990}{7515} * 399 = \mathbf{159}$$

3.3.1.2. Survey Instrument Design

According to Creswell (2003), surveys aim to generalize descriptions of trends, attitudes, or opinions from a sample to a population, allowing inferences about the characteristics, attitudes, or behaviours of the population. Therefore, considering the advantages, it was logical to apply the survey method in this study as well.

In this study, a survey method using a self-administered questionnaire was employed to gather relevant data regarding the impact of taxpayers' perception of fairness on tax compliance behaviour. The survey instrument was developed based on those used by Yesegat and Fjeldstad (2016), Dea(2011) and Aborat(2011). The questionnaires were initially prepared in English and

then translated into Amharic. A five-point Likert scale questionnaire ranging from "Strongly agree" to "Strongly disagree" were used to measure the variables.(Appendix I)

The questionnaire was organized in to three parts. The first part collects background information about the respondents. The second part focuses on taxpayers' perceptions of tax fairness, specifically examining determinants such as retributive fairness, exchange fairness, vertical fairness, horizontal fairness, procedural fairness, time-related fairness, and intergroup fairness. The last part includes in-depth interviews and open-ended questions regarding taxpayers' general knowledge and perception about taxation and related concepts for category A and B business profit taxpayers. Close and open-ended questions for tax officials relate to the level of tax compliance in their district, their attitudes towards the impacts of fairness perception on voluntary compliance, and the dependent variable, voluntary tax compliance behaviour. Furthermore, this part of the questionnaire allows respondents to suggest possible solutions to make the tax system fair and provides an opportunity for additional comments on business profit tax fairness.

3.3.1.3. Actual Conduct of the Survey

The data for this research was collected through a structured survey conducted among taxpayers residing in Bahirdar City, Ethiopia. The sample included individuals classified under categories A and B taxpayers. The data collection process involved a combination of methods, including in-person interviews conducted at the respondents' homes, as well as at their respective office premises. Additionally, some respondents participated in the survey during their visits to the revenue authority office for income declaration and tax compliance purposes. This approach ensured comprehensive coverage of the target population across various settings and contexts within the city. The survey instrument was distributed to a total of 399 respondents, among which 382 questionnaires were collected. From these collected questionnaires 20 questionnaires rejected as incomplete, or were not suitable for use in this study. 362 completed questionnaires were found to be usage. The survey was conducted in the month of April 2024. Considering usable responses only, the response rate was 91%. Considering the response rate achieved, it was decided not to opt for a second round of survey distribution, which would have cost additional time and resources.

3.3.1.4. Definition and Measurement of Variables

This section defines and measures the variables considered in this study. Whenever possible, items for the constructs were adapted from previous research to ensure the scale's content validity (Luarn & Lin, 2004). The average score for items of each perception construct was used for further analysis.

Dependent Variable: In this study the dependent variable is voluntary tax compliance behaviour. It takes the value of 1=volunteer to comply or take 0=otherwise.

This relates to the intent of taxpayers to comply with the tax obligation. So, it is measured in terms of responses to the question: *Have you filed and paid your taxes last year?*

Independent Variables: eleven independent variables were considered: exchange fairness perception, inter-group fairness perception, procedural fairness perception, horizontal fairness perception, vertical fairness perception, time related fairness perception, retributive fairness perception, gender, age , education level and business status.

Exchange fairness perception: It refers to a taxpayer's belief in a reciprocal relationship where they receive adequate public goods and services from the government in return for their tax contributions. Variable measured on a five-point scale. Key questions under this factor: 'I receive fair value in return for my income tax paid (e.g. benefit)'. The average responses to the questions were used.

Inter-group fairness perception: It refers to a taxpayer's belief that no group is given preferential treatment at the expense of another without a justified reason. This variable measured on a five-point scale. Key questions under this factor: 'Certain groups of taxpayers were more favoured than others in the assessment of taxes'

Procedural fairness perception: It refers to a taxpayer's belief that the processes and procedures used to make decisions and collect taxes are fair, transparent, and consistently applied. This variable measured on a five-point scale. Key questions under this factor: 'The procedures applied for the tax payers by the tax authority are fair for all individuals'.

Horizontal fairness perception: It refers to a taxpayer's belief that individuals with equal amounts of income or property should pay the same amount of tax, emphasizing equal treatment for taxpayers in similar economic positions. Variable measured on a fivepoint scale. Key questions under this factor include: 'I believe every one pay their fair share of income tax under the current tax system'.

Vertical fairness perception: It refers to the extent to which taxpayers perceive fairness in the tax burden distribution based on the ability to pay principle, justifying progressive tax rates where tax rates increase with higher income or wealth levels. Variable measured on a five-point scale. Key questions under this factor: 'Tax assessment process is based on the taxpayer's ability to pay'.

Time-related fairness perception: It reflects individuals' perception of the appropriateness of their total tax obligation over the long run, considering fluctuations in income or wealth and whether taxes are levied at convenient times for payment. Variable measured on a fivepoint scale. Key questions under this factor: 'Every income tax is not levied at the time or in the manner that makes it the most convenient for me to pay it'.

Retributive fairness perception: It refers to individuals' perception of the fairness in the administration of penalties and rewards, ensuring they are proportionate and just for the behaviors exhibited, particularly focusing on whether the punishment aligns with the severity of the offense committed. Variable measured on a five point scale. Key questions under this factor: 'I believe the initial late payment penalty on the unpaid tax, imposed on non-compliant taxpayers under the current tax system, is fair'.

Registration for tax: it is the number of years since the taxpayer registered for tax. It is measured in number of years the respondent has been registered as category A or B tax payer. Measurement scale is measured on a positive and continuous scale.

Demographic characteristics below considered as dummy variables.

GEN (+/-) = Gender; 1 if respondent is a male; 0 female

EDU (+/-) = Dummy variables for educational qualifications

(EQ) Reference group university and above

1 if respondent illiterate; 0 otherwise

1 if respondent completed primary school; 0 otherwise

1 if respondent completed secondary school; 0 otherwise

1 if respondent completed diploma; 0 otherwise

(BS) Reference group Owner

1 if respondent manager; 0 otherwise

1 if respondent owner and manager; 0 otherwise

3.3.1.5. Model Specification

In this study, the researcher employed the binary logit model as the analytical framework. The binary logit model is commonly used in social sciences due to its ability to perform path analytic modeling with latent variables (Pallant, 2005). According to Hair et al. (2006), the logit model is a relatively new statistical tool that combines various multivariate techniques such as multiple regression, path analysis, factor analysis, and principal component analysis.

The dependent variable in this study is binary, indicating whether taxpayers comply voluntarily or not. The model is specified using a probability function. Binomial categorical outcome variables are limited dependent variable in which the possible outcomes are only two. For Binary outcome dependent variable let say Y could take one of the two possible outcomes. Logit and Probit are the most probabilistic functional form of categorical outcome. Logistic model is the regression analysis of the study of association between categorical outcome and the independent variable. The logit regression model experience only dependent variable in which it has only two values either 1 or 0. Logistic model has assumed set of independent variables that would have an effect on the dependent variable have logistic distribution. Most econometrician and statisticians has appreciated the underlying distribution assumption of independent variables and error terms

since most situations are not behave in normal distribution(Heckman, 2010). This study has used logistic model to examine the determinants of the dependent variable of the study. To test the hypotheses, binary logistic regression analysis employed in this study. Logistic regression is chosen for this study due to the dichotomous nature of the dependent variable, voluntary compliance attitude (0 = not volunteering to comply, 1 = volunteering to comply). The logistic regression model estimates the probabilities of belonging to the class of volunteer taxpayers.

$$Y_i = G(X_i, \beta_i) + \varepsilon_i, Y_i = 0 \text{ or } 1 \text{ ----- (1)}$$

Where, Y_i is tax compliance, X_i is independent variables, β_i parameters, and ε_i error term

$$pr(Y_i = 1|X) = G(\beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \text{---} + \beta_nX_n) \text{ ----- (2)}$$

For more compact representation

$$pr(Y_i = 1|X) = G(X\beta) \text{ ----- (3)}$$

where X is vector of independent variable, and β is vectore of parameters

It is possible to rewrite logistic function,

$$G(X\beta) = \frac{e^{X\beta}}{1 + e^{X\beta}} \text{ ----- (4)}$$

The log of odds ratio

$$ll = \ln \left(\frac{pr(y = 1|X)}{1 - pr(y = 1|X)} \right) \text{ ----- (5)}$$

$$ll = \ln \left(\frac{e^{X\beta}}{1 - e^{X\beta}} \right) = X\beta \text{ ----- (6)}$$

$$ll = \beta_0 + \beta_1X_1 + \beta_2X_2 + \text{---} + \beta_nX_n \text{ ----- (7)}$$

The independent variables X_i include exchange fairness perception, procedural fairness perception, intergroup fairness perception, horizontal fairness perception, vertical fairness perception, time-related fairness perception, retributive fairness perception, age, gender, income,

and education. These variables were regressed on the dependent variable, compliance behaviour (Hypotheses: HP1, HP2, HP3, HP4, HP5, HP6, HP7, HP8).

3.4. Diagnosis Test of the Econometric

3.4.1. Heteroscedasticity Test

One of the assumptions of econometric model is homoscedasticity, which states that the variance of the error term must be constant. The variance of stochastic component of regression model must have constant variance to have efficient and consistent estimators (Gujarati, 2004). This study employed Breusch–Pagan. The hypothesis of Breusch–Pagan is as follow as,

H_0 : Constant variance

H_1 : Non constant

The test revealed that there is heteroscedasticity problem. The study used robust logistic regression as remedial mechanism (see Appendix II).

3.4.2. Multicollinearity

Multicollinearity is the other common expected problem under econometric model. Multicollinearity is the linear dependence between explanatory variables employed in the model (Green, 2003). Variance inflation factor (VIF) is the testing mechanism of multicollinearity, and if the average VIF is less than 10. The average VIF of multicollinearity of this study is 3.21. This means there is no multicollinearity problem (see Appendix II). The other technique that was used to test multicollinearity was correlation matrix. The correlation matrix showed that all correlation coefficients were below than +0.5 and -0.5, which ensure that there is no strong dependence between independent variables (no multicollinearity) (see Appendix II).

3.4.3. Specification Test

Specification test is a test used to check whether a regression model capture important variables or not. This means specification test check omitted variable test. This study used link test to test specification test. The result showed that there is no model specification problem. This means the model was correctly specified (see Appendix II).

3.4.4. Model Fitness

Goodness of fit is corner point of parametric estimation. It is a measure of how independent variables explained the variation of dependent variable. One of the measurements of goodness of fit is R squared. However, for categorical dependent variable Pseudo R squared widely used goodness of fit measurement (Wooldridge, 2000). Pseudo R squared between 0.2 and 0.4 is indicator of good regression model. The Pseudo R squared of this study is 0.4, which ensures that the model best explained the dependent variable.

The LR chi-square statistic of 75.258 indicates the likelihood ratio test statistic for the overall significance of the logistic regression model. It is used to test the null hypothesis that all coefficients in the model, except the intercept, are equal to zero, implying that none of the independent variables have an effect on the dependent variable. The LR chi-square statistic follows a chi-square distribution with degrees of freedom equal to the number of independent variables in the model. In this case, the degrees of freedom are 16, which correspond to the number of independent variables in the model. The LR chi-square statistic of 75.258 with a p-value of 0.000 indicates that the logistic regression model is statistically significant at the 0.05 level. This means that there is strong evidence to reject the null hypothesis, suggesting that at least one of the independent variables has a significant effect on the dependent variable (voluntary compliance attitude).

An area under the curve (AUC) value of 0.9193 indicates that the logistic regression model has excellent discriminatory power. The AUC value ranges from 0 to 1, where 0.5 represents a model with no discrimination (equivalent to random guessing) and 1 represents a model with perfect discrimination. With an AUC of 0.9193, the model is able to distinguish between taxpayers that are volunteer to comply and are not volunteer to comply with a high degree of accuracy. This suggests that the model is effective in predicting the compliance attitude of taxpayers based on the selected independent variables. Overall, an AUC of 0.9193 indicates that the logistic regression model has strong discriminatory power and is able to effectively differentiate between taxpayers with different attitude for voluntary tax compliance.

The Hosmer-Lemeshow test assesses the goodness-of-fit of a logistic regression model by comparing the observed and expected frequencies of outcomes in different groups defined by predicted probabilities. In this case, the test results indicate that the model fits the data well, as

the p-value associated with the Hosmer-Lemeshow chi-square statistic is 0.0577, which is greater than the typical significance level of 0.05. A non-significant p-value (greater than 0.05) suggests that there is no significant difference between the observed and expected frequencies of outcomes in different groups based on predicted probabilities. This indicates that the model's predicted probabilities match the actual outcomes well across different levels of predicted probabilities, indicating a good fit of the model to the data.

Link test is used after running a logistic regression to test the specification of the model. It assesses whether the functional form of the model is correctly specified by testing the joint significance of the coefficients of the predicted probabilities and their squared terms. Since the p-value is greater than 0.05, the coefficient for the squared term is not statistically significant. This suggests that the inclusion of the squared term does not significantly improve the fit of the model. Overall, the link test results indicate that the model's specification is adequate and that the linear relationship between the predicted probabilities and the log odds is sufficient to explain the relationship between the independent and dependent variables in logistic regression model.

3.5. Qualitative Aspect of the Research Method

In the social sciences, various interview approaches have been employed, including structured, semi-structured, and unstructured interviews (Nardi, 2003). Structured interviews involve following scripted questions in a specific sequence, with fixed options for responses that are quantitatively coded. Semi-structured interviews use an interview protocol as a guide, allowing flexibility in the order of questions. The interviewer initiates questions and probes further based on the interviewee's descriptions and accounts. Unstructured interviews involve both the interviewer and interviewee initiating questions and discussing topics. For obtaining multifaceted or sensitive information and gaining a detailed understanding of concepts, interviews are suitable (Hair et al., 2007). The survey was administered for a month, April 2024 E.C. In this study, the qualitative aspect focuses on understanding taxpayers' and officials perceptions of the fairness of the tax system and related issues. Following the guidelines, semi-structured in-depth interviews were used to collect qualitative data. This approach is expected to provide richer and more accurate data, enhancing the study findings. The survey was conducted through face to face interview with structured questionnaire. In addition to taxpayers, this study surveyed four tax officials.

3.6. Conclusion

This chapter presented the methodological framework used in conducting the research, providing explanations for each stage undertaken. It encompassed the general research design, population of study, sample size and sampling technique, sources of data, research instruments, methods of data analysis, and presentation.

Chapter Four

4. Data analysis, Presentation and Discussion

This chapter presents the results of the study, followed by a detailed discussion based on the findings. The final section summarizes the key insights gleaned from this analysis.

4.1. Results of the Study

This section presents the results and analysis of data collected via questionnaire and interviews. The study employed both descriptive and econometric methods as tool of analysis. The first session of this chapter is descriptive part of the study. Under the descriptive part, the study used frequency tabular illustration, pie chart, Chi2 test, summary statistics (mean, standard deviation, skewness, and kurtosis), pairwise correlation and histogram.

4.1.1. Survey Results

The survey analysis commenced with a comprehensive summary of the demographic profiles of the respondents. Comparisons were drawn between compliant and non-compliant attitudes towards tax obligations. To facilitate clear illustration, relevant frequency tables were included. The statistical analysis presented in this section was conducted using the STATA version 17 computer program.

4.1.1.1. Respondents' Profile

Table 4.1: Respondents' Profile (control variables)

Variable	Frequency	Percept
Gender		
Female	99	27.35
Male	263	72.65
Age		
< 25	8	2.21
25-34	17	4.70
35-44	136	37.57
45-54	127	35.08
55-64	72	19.89
65 ⁺	2	0.55
Education status		
Illiterate	60	16.57
Under secondary school	102	28.18
Secondary school	61	16.85

Certificate	74	20.44
Diploma	3	0.83
University & above	62	17.13
		Income
<100,000	83	22.93
100,0001-500,000	105	29.01
500,001-1000000	82	22.65
1000001-3000000	40	11.05
3000001-6000000	33	9.12
6000001-9000000	19	5.25

Source, own computation based on survey result

The majority of the respondents are male, making up approximately 72.65% of the total, while females constituted 27.35%. This indicates a significant gender disparity among the participants.

The dominant age group among respondents was 35-44 years, comprising 37.57%, followed closely by the 45-54 age group at 35.08%. These two age groups collectively represented a significant majority (72.65%) of the sample. Younger respondents (< 25 years) and older respondents (65+ years) were the least represented, indicating that middle-aged individuals are the most engaged or available for the survey.

The highest proportion of respondents have education below secondary school (28.18%), followed by those with certificates (20.44%). A significant portion has secondary school education (16.85%) or higher education (university and above) at 17.13%. Diploma holders constitute the smallest group at 0.83%.

The majority of respondents fall within the income bracket of 100,0001 to 500,000 (29.01%), followed by those earning less than 100,000 (22.93%) and those in the 500,001 to 1,000,000 range (22.65%). Higher income brackets (>1,000,000) have fewer respondents, with the smallest group being those earning between 6,000,001 to 9,000,000 (5.25%).

Table 4.2: Current occupation/position of respondents in the business

	Frequency	Percent	Valid Percent
Valid Owner	271	57.4	74.9
Manager	60	12.7	16.6
owner and manager	31	6.6	8.6
Total	362	76.7	100.0

Source, own computation based on survey result

The survey reveals that 57.4% of respondents were business owners, 12.7% are managers, and 6.6% hold both roles. Owners dominate the valid responses, representing 74.9%, indicating a strong focus on ownership perspectives. Managers form 16.6% of valid responses, showing their smaller yet significant presence. The high non-response rate suggests a need for improved survey methods.

Table 4.3: Main business activity

Main business activity

	Frequency	Percent	Valid Percent
Valid Manufacturing	25	6.91	7.33
Agriculture	2	0.55	0.59
Trade	192	53.04	56.31
Service	143	39.50	41.94
Total	362	100.00	100.0

Source, own computation based on survey result

The table presents survey data illustrating the distribution of respondents across different sectors. Manufacturing constitutes 6.9% of all responses and 7.3% of valid responses, while agriculture comprises 0.6% of total responses and 0.7% of valid responses. Trade emerges as the predominant sector with 53% of total responses and 56% of valid responses. Services account for 40% of total responses and 42% of valid responses, highlighting significant engagement in this sector.

Table 4.4: Business Type

	Frequency	Percent	Valid Percent
Valid A sole proprietorship (individual ownership)	152	32.2	42.0
A partnership	50	10.6	13.8
A	151	32.0	41.7
A State Owned	9	1.9	2.5
Total	362	76.7	100.0

Source, own computation based on survey result

The survey shows that 32.2% of respondents have sole proprietorships, 10.6% have partnerships, and 1.9% are state-owned, with 23.3% of responses missing. Sole proprietorships account for 42.0% of valid responses, indicating a strong presence of individual ownership. Partnerships form 41.7% of valid responses, showing a significant number of joint ventures.

Table 4.5: How often you are attending education sessions about taxation?

	Frequency	Percent	Valid Percent
Valid Once a year	52	11.0	14.4
Twice a year	92	19.5	25.4
Three times per year	96	20.3	26.5
Not at all	122	25.8	33.7
Total	362	76.7	100.0

Source, own computation based on survey result

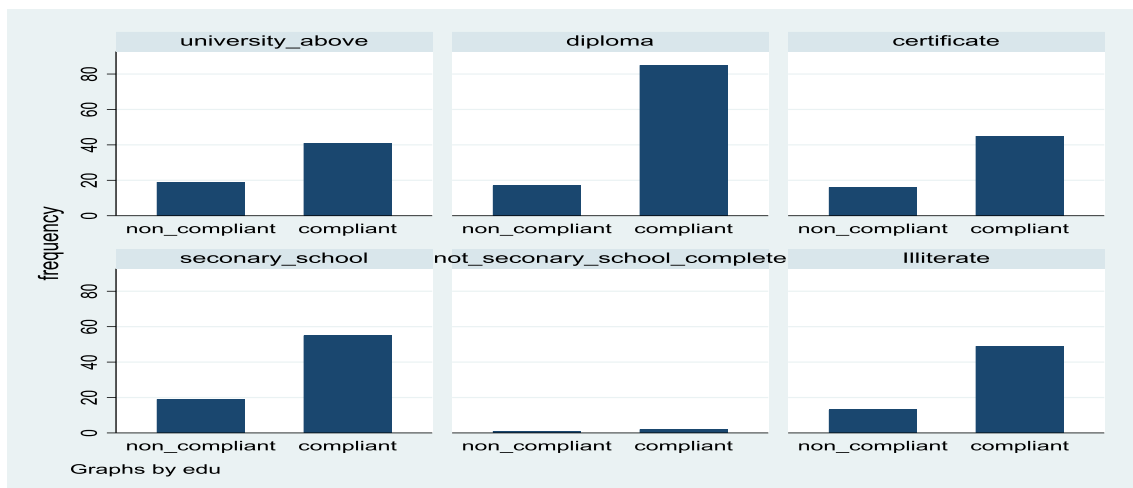
The survey indicates that 11.0% of respondents attend taxation education sessions once a year, 19.5% attend twice a year, and 20.3% attend three times a year, with 25.8% not attending at all. Among valid responses, 14.4% attend once a year, 25.4% attend twice a year, and 26.5% attend three times a year. The highest proportion, 33.7%, do not attend any sessions. The data suggests varied engagement in taxation education.

4.1.1.2. Demographic Variables and Compliance

Tax Compliance and Educational status

The following histogram showed that the most tax complaints were households who have diploma level of education. On the opposite the individuals who have university and above, and secondary school education level were the most non tax complaints.

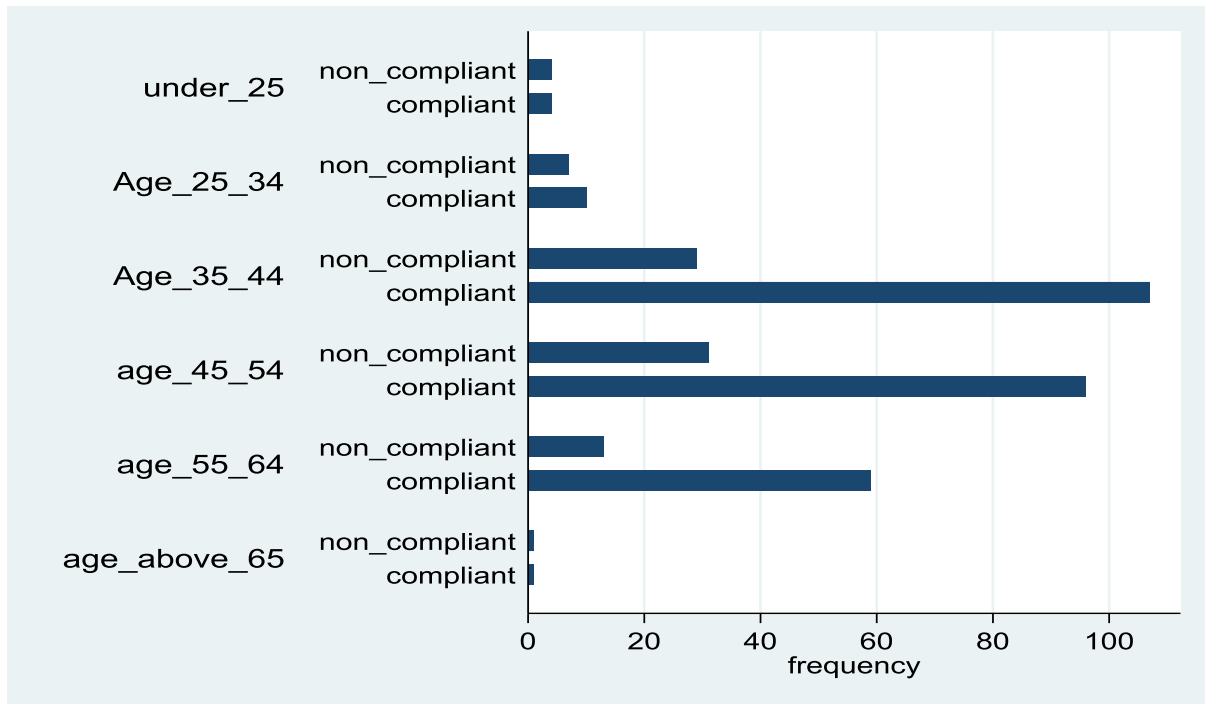
Figure 4.1: Tax compliance over Educational status



Tax Compliance and Age of Taxpayers

The association between age of taxpayers and tax compliance revealed that taxpayers whose age between 35 and 44 were the most tax compliance behaviour relative to other age groups. However, taxpayers whose age group between 45 and 54 were the largest non-tax compliant taxpayers of category A & B.

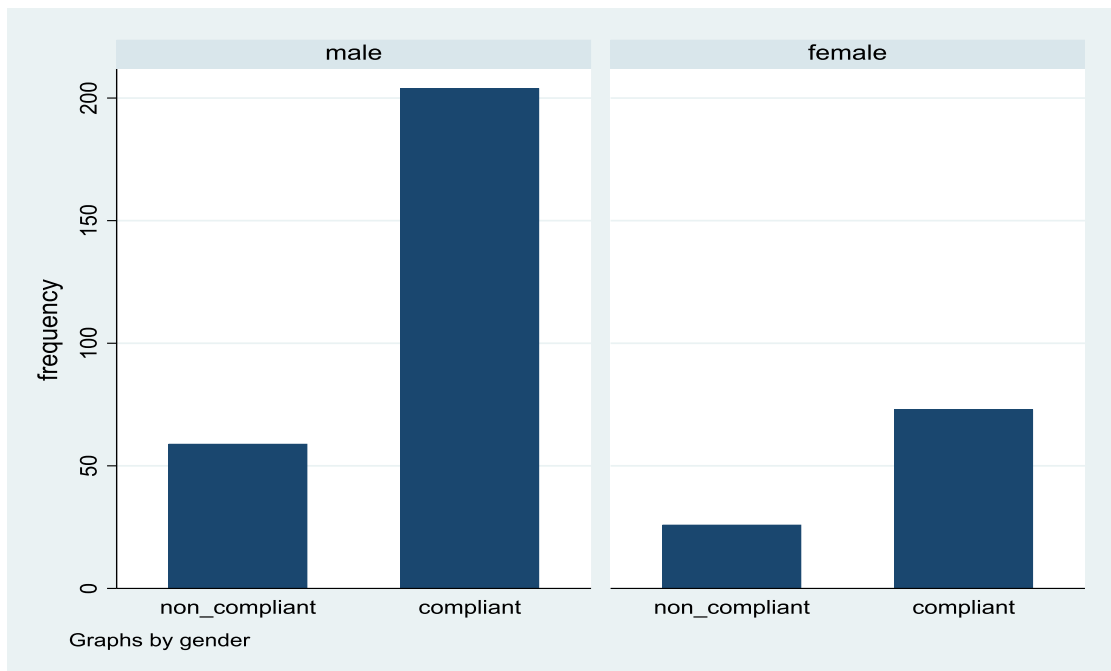
Figure 5 4.2: Tax compliance over age of taxpayers



Tax Compliance and Gender

It is expected that there may be variation on tax compliance behaviour over gender. The study found that the largest tax compliant taxpayers were male taxpayers relative to female.

Figure 6 4.3: Tax Compliance Gender



4.1.1.3. Chi2 Test between Tax Compliance, gender, age, registration for tax and Income

The study used Chi2 test to check whether there is dependence between the dependent variable, tax compliance, registration for tax and other control variables (age and income). The test indicates that there is dependence between tax compliance, registration for tax and income of taxpayers but not with gender and age of taxpayers. This implies that as the level of income taxpayers owned varies, tax compliance behaviour will be changed. The other important variable that has association with tax compliance is registration for tax, which is measured in terms of years. The probability value 0.011, which is less than 5% so that the null hypothesis should be rejected. This is result a clue that registration for tax may have its own statistical effect on tax compliance.

Table 4.6: Chi2 test between Tax compliance and Control variables

Variable	Registration for tax in years			
	Less than a year	1-5 years	6-10 years	More than 10 years
Tax compliance				
Non-Compliant	9	26	29	21
Compliant	32	52	74	119
Pearson chi2(3) = 11.1245 Pr = 0.011				

Income group	Tax Compliance	
	Non-compliant	Compliant
Below 100,000	18	65
100,001-500,000	20	85
500,0001-1,000,000	18	64
1,000,001-3,000,000	11	29
3,000,001-6,000,000	17	16
6,000,001-9,000,000	1	18
Pearson chi2(5) = 19.7081 Pr = 0.001		
Gender	Non-compliant	Compliant
Male	59	204
Female	26	73
Pearson chi(2) = 0.5870 Pr = 0.444		
Age group	Non- compliant	Compliant
Under 25	4	4
25-34	7	10
35-44	29	107
45-54	31	96
55-64	13	59
65 ⁺	1	1
Pearson chi2(5) = 8.4697 Pr = 0.132		

Source, own computation based on survey result

4.1.1.4. Summary Statistics

The summary statistics illustrates the mean, standard deviation(sd), skewness(sk), kurtosis(kr), minimum, and maximum values of retributive fairness perception, procedural fairness perception, vertical fairness perception, horizontal fairness perception, exchange fairness perception, time-related fairness perception, and inter-group fairness perception over tax compliance attitude, which is the dependent variable.

The mean value for all explanatory variables between two groups were almost close each other. However, the mean value of vertical fairness perception and horizontal fairness perception between compliant and non-compliant is somewhat stranger. The mean value of vertical fairness perception and horizontal fairness perception for non-compliant is higher than its counterpart. This indicates that vertical fairness perception and horizontal fairness perception are not causal factors for being tax compliant or non-tax compliant. The other important parameter used in this study is variation of explanatory variables between tax compliant and non-compliant. There is high variation for time related fairness perception and inter group fairness perception between compliant taxpayers and non-compliant taxpayers. The standard deviation of time related fairness perception and inter group fairness perception for compliant taxpayers is higher than non-compliant.

Table 4.7: Summary statistics of Independent Variables

Variable	Non-compliant						
	N	Mean	Sd	Sk	Kr	Min	Max
RFP	85	2.38	0.475	0.357	3.408	1.33	4
PFP	85	2.12	0.814	1.315	4.782	1.1	4.8
VFP	85	3.08	1.422	0.037	1.558	1	5
HFP	85	3.13	1.071	-0.263	2.092	1	5
EFP	85	2.14	0.538	1.217	6.392	1.17	4.58
TFP	85	3.23	0.893	-0.132	2.519	1	5
IFP	85	3.26	0.857	-0.326	2.693	1	5
		Compliant					
RFP	277	2.454	0.450	0.291	3.029	1.33	3.83
PFP	277	2.465	0.914	0.751	2.805	1	4.8
VFP	277	2.859	1.409	0.146	1.573	1	5
HFP	277	2.888	1.026	0.022	2.309	1	5
EFP	277	2.965	0.999	0.549	1.930	1.33	5
TFP	277	3.139	1.104	-0.124	1.815	1	5
IFP	277	3.587	1.043	-0.418	2.216	1	5

NB; RFP= retributive fairness perception, PFP= procedural fairness perception, VFP= vertical fairness perception, HFP= horizontal fairness perception, EFP= exchange fairness perception TFP= time related fairness perception, IFP= inter group fairness perception

Source, own computation based on survey

4.1.1.5. Correlation Matrix

The study employed pairwise correlation to measure the statistical association between variables (both dependent and independent variables) used in the study. Even though, variables have association at 10% significance level, there is no correlation between explanatory variables at 5% significance level. The correlation between tax compliance and procedural fairness perception is positive, and significant relationship at 10% ($r = 0.1629$, $p = 0.0019$). This means as procedural fairness perception increases, tax compliance will increase. Tax compliance and exchange fairness have positive ($r = 0.3572$, $p = 0.0000$) and statically significant relationship at 10% significance level. As exchange fairness perception by taxpayers' increases, being tax compliant will positively increase. The other important significant association is between inter-group fairness perception and tax compliance. They have positive correlation at 10% significance level ($r = 0.1355$, $P = 0.0098$). This implies that as inter-group perception fairness increases, being tax compliant will increase positively. The correlation between tax compliance and vertical fairness perception, and horizontal fairness perception is negative and insignificant ($r = -0.0684$, $P = 0.1942$, $r = -0.0968$, $P = 0.0658$).

Table 4.8: Pairwise Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) tax compliance	1.000							
(2) retributive fairness perception	0.069 (0.193)	1.000						
(3) procedural fairness perception	0.163* (0.002)	0.125* (0.017)	1.000					
(4) vertical fairness perception	-0.068 (0.194)	-0.092 (0.080)	-0.045 (0.391)	1.000				
(5) horizontal fairness perception	-0.097 (0.066)	-0.066 (0.211)	-0.215* (0.000)	0.495* (0.000)	1.000			
(6) exchange fairness perception	0.357* (0.000)	0.150* (0.004)	0.357* (0.000)	-0.169* (0.001)	-0.113* (0.031)	1.000		
(7) time related fairness perception	-0.037 (0.480)	-0.132* (0.012)	-0.228* (0.000)	0.135* (0.010)	0.123* (0.019)	-0.454* (0.000)	1.000	
(8) inter group fairness perception	0.136* (0.010)	-0.167* (0.001)	-0.233* (0.000)	0.182* (0.001)	0.052 (0.319)	-0.396* (0.000)	0.518* (0.000)	1.000

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

Source; own computation based on survey

4.1.1.6. Econometric (logistic) Model Result

In addition to descriptive statistics, econometric model was employed to identify the determinants of tax compliance. The dependent variable, which is tax compliance is qualitative, it was grouped into binary outcome. Non-compliant taxpayers were coded as “0” but compliant taxpayers coded as “1”. Logit model was used in this study as econometric model, which compatible for binary outcome, dependent variable.

Table 4.9: Logistic Regression Results

Tax compliance	Coefficients	Odds ratio	St.Err.	z-value	p-value	[95% Conf Interval]	Sig
Retributive fairness perception	.849	2.338	.999	1.99	.047	1.012 5.4	**
Vertical fairness perception	.183	1.201	.212	1.04	.3	.85 1.696	
Horizontal fairness perception	.226	1.254	.356	0.80	.426	.718 2.188	
Exchange fairness perception	1.947	7.008	3.127	4.36	0.00	2.922 16.804	***
Time related fairness perception	.129	1.138	.288	0.51	.61	.693 1.87	
Inter group fairness perception	1.249	3.485	.877	4.96	0.00	2.128 5.708	***
Procedural fairness perception	2.571	13.077	8.78	3.83	0.00	3.508 48.751	***
Male	.542	1.159	.651	0.26	.793	.385 3.487	
Age taxpayer	.148	1.72	.411	2.27	.023	1.076 2.747	**
Base owner							
Manager	1.76	5.813	4.229	2.42	.016	1.397 24.191	**
Owner and man	1.573	4.823	3.167	2.40	.017	1.331 17.472	**
Base university &above)							
Diploma	-2.315	.099	.104	-2.19	.029	.012 .786	**
Certificate	-2.608	.074	.087	-2.22	.027	.007 .739	**
Secondary	-3.385	.034	.046	-2.51	.012	.002 .475	**
Primary	-2.684	.068	.126	-1.45	.147	.002 2.57	
Illustrate	-2.627	.072	.085	-2.23	.025	.007 .724	**
Constant	-17.17	0	0	-6.10	0.00	0 0	***
Mean dependent var			0.837	SD dependent var		0.370	
Pseudo r-squared			0.438	Number of obs		362	
Chi-square			75.258	Prob > chi2		0.000	
Akaike crit. (AIC)			214.908	Bayesian crit. (BIC)		281.065	

*** $p < .01$, ** $p < .05$, * $p < .1$

Source, own computation based on survey result

The logistic model result showed that independent variables such as exchange fairness perception, inter-group fairness perception, procedural fairness perception, retributive fairness perception, business status (being manager and being owner and manager as compare with owner only), age and education are positive and statistically significant.

4.1.2. In-depth Interview Results

The interview participants were intentionally selected for their extensive experience and knowledge in taxation.

Perception of the current business profit tax system: The interviewed taxpayers expressed a level of trust in the tax system itself, expressing satisfaction with the system overall. However, their dissatisfaction stems from distrust about the government's allocation and utilization of tax revenue. The respondent's statement suggests a desire for greater accountability and transparency in how tax revenue is spent by the government. They may feel that their tax contributions are not being effectively or efficiently utilized for public goods and services. Concerns about the proper use of tax revenue can influence taxpayers'

compliance attitudes and behaviours. If taxpayers perceive that their contributions are being misused they may become less willing to comply with tax obligations or may seek ways to minimize their tax liabilities.

Fairness of the current business profit tax system: Taxpayers expressed varying views on the fairness of the current business profit tax system across different dimensions. They generally found the system fair in procedural, time-related, and intergroup fairness, appreciating its transparency, reasonable deadlines, and equitable treatment of different taxpayer groups. However, they perceived the system as unfair in terms of retributive and exchange fairness, citing concerns about proportionality and the inequitable exchange between taxes paid and benefits received. Opinions on horizontal and vertical fairness were mixed, with some acknowledging efforts towards equity and consideration of taxpayers' ability to pay, while others noted existing disparities.

Perception of tax system fairness and voluntary compliance: Taxpayers generally perceive the current business profit tax system as somewhat unfair. Their main concerns include its complexity, inequitable enforcement, and a lack of transparency and accountability in government spending. These perceptions significantly influence voluntary tax compliance; those who view the system as fair are more likely to comply voluntarily. Although some fair aspects, like the intent of progressivity and transparent regulations, are acknowledged, the negative aspects tend to outshine the positives for most respondents.

Impact of a fair tax system on voluntary compliance: Taxpayers and tax officials both emphasize the significant impact of fairness perceptions on voluntary tax compliance. Taxpayers, particularly those in categories A and B, believe that their perceptions of fairness strongly influence their willingness to comply voluntarily with tax obligations. They express that a fair tax system enhances voluntary compliance, as taxpayers are more inclined to fulfill their tax obligations when they perceive the system as fair and just. Conversely, perceived unfairness can lead to lower voluntary compliance, as taxpayers may feel demotivated to comply with a system they view as biased or inequitable. Therefore, improving perceptions of fairness is crucial for enhancing voluntary compliance, as taxpayers are more likely to comply willingly with a tax system they perceive as fair.

Government spending of tax revenue: According to the information from interview participants, the overwhelming consensus is that they do not believe the government spends tax revenue properly. This perception of improper or inefficient use of tax revenue is a

significant concern among taxpayers and has important implications for tax compliance attitudes. Respondents' belief that tax revenue is not properly spent suggests a lack of trust in the government's fiscal management and accountability. This perception is likely to undermine the overall credibility and legitimacy of the tax system. Interviewees express mixed opinions regarding the government's spending of tax revenue. Some believe that tax revenue is spent properly on while others are disbelieving about the government's allocation of funds.

Perception of service clarity and speed

According to the information from interview participants, there is a consensus that the services rendered by the tax authorities are neither fast nor clear. This perception of inefficiency and lack of clarity in service delivery is a critical concern for taxpayers and has important implications for their compliance attitudes and overall trust in the tax system.

Participation in formal taxation courses/training

Respondents reported occasionally attending taxation training programs organized by the tax authority, although they expressed limited clarity in their knowledge acquisition from these sessions. While they participate in these educational opportunities, their understanding of taxation concepts and regulations remains somewhat ambiguous, suggesting potential gaps in the effectiveness of the training programs or in the participants' engagement with the material. This nuanced response highlights the importance of ensuring that taxation education initiatives effectively translate into improved understanding and compliance among taxpayers.

Understanding of penalties and fines: Based on the responses from category A and B taxpayers to the question, "Do you have a good knowledge of what causes penalties and fines that helps you to comply?" the researcher found that most participants possess a general understanding of business income tax. However, some respondents indicated a lack of both general and technical/legal knowledge regarding the business income tax system. This gap in knowledge may hinder their ability to fully comply with tax obligations, as a clear understanding of penalties and fines is crucial for ensuring compliance.

Impact of tax knowledge on tax compliance: As most interviewees mentioned, having good tax knowledge significantly influences their compliance attitude. They firmly believe that being well-informed about tax regulations and obligations encourages voluntary tax compliance. They argue that when taxpayers understand their tax obligations, they are more likely to comply with tax laws.

Fairness of business income tax burden: The majority of respondents, when asked about the fairness of the business income tax burden on category A and B taxpayers, expressed dissatisfaction, citing various concerns. These include perceived lack of proportionality in the tax burden (retributive fairness), transparency issues in tax assessment and collection processes (procedural fairness), inadequate benefits received in exchange for taxes paid (exchange fairness), disproportionate burden on certain income groups (vertical fairness), unequal treatment among taxpayers (horizontal fairness), delays in tax-related processes (time-related fairness), and disparities in treatment between different taxpayer groups (inter-group fairness). Overall, respondents feel that these factors contribute to an unfair tax burden, leading to frustration and disillusionment with the taxation process.

Additional comments on tax system fairness: Respondents provided mixed feedback regarding the effectiveness of the Bahir Dar city revenue authority. While they acknowledged the authority's efficiency in law enforcement and tax collection, they expressed dissatisfaction with its service delivery, particularly in terms of delayed responses to customer inquiries and inadequate facilitation of awareness workshops. Furthermore, respondents highlighted concerns about widespread tax evasion among businesses and individuals engaged in illegal activities, which they believe has led to unfair competition in the city. They feel that the tax authority's efforts to address these issues have been insufficient, resulting in market distortion and negatively impacting their attitudes towards taxation. Respondents also expressed dissatisfaction with the lack of transparency regarding the use of tax revenue. They are concerned about the absence of information on how taxes are allocated, whether for aiding the poor or for development purposes, leading to uncertainty and frustration about the role and impact of their tax contributions.

Taxpayers' compliance level

In response to the question regarding the taxpayers' compliance level, tax officials indicated that it appears to be somewhat positive, albeit with certain challenges. While there is a perception of overall compliance among taxpayers, issues such as late payments and non-reporting of sales by some taxpayers remain prevalent. This suggests that while a significant portion of taxpayers may be fulfilling their tax obligations in a timely manner, there are still instances of non-compliance that need to be addressed. These insights highlight the need for continued efforts to improve compliance levels through enhanced enforcement measures and taxpayer education initiatives.

In conclusion, the responses from tax officials suggest a belief in the presence of voluntary tax compliance among taxpayers in the city. This acknowledgment underscores the

recognition of taxpayers' willingness to voluntarily comply with tax obligations without the need for extensive enforcement measures. The belief in voluntary compliance attitude among taxpayers in the city indicates a level of trust and cooperation between taxpayers and tax authorities, which can be considered a positive aspect of tax administration. However, the presence of non-compliance issues cannot be disregarded entirely. These insights underscore the importance of fostering an environment that encourages voluntary compliance while implementing effective enforcement measures to address any instances of non-compliance.

Fair treatment by tax administration

In response to the inquiry regarding the fairness of tax administration treatment towards taxpayers, tax officials expressed a definitive affirmation. According to their perspective, the tax administration ensures fair treatment for all category A and B taxpayers. This assertion suggests a commitment to equity and impartiality in the administration of tax policies and procedures. While further examination may be warranted to validate this perception from taxpayers' perspectives, the assertion of fairness by tax officials is indicative of a commitment to upholding principles of fairness and equity in tax administration practices.

Estimating the number of taxpayers who don't comply

The tax officials indicated that it is difficult to accurately estimate the size of taxpayers who are not willing to pay taxes. However, they acknowledged that there are instances where taxpayers engage in non-compliance behaviours such as underreporting income, claiming false deductions, and attempting to evade taxes. Additionally, some taxpayers may face penalties due to late payment of taxes.

In summary, the responses from tax officials highlight the challenges associated with estimating the size of taxpayers who are not willing to pay taxes. While it is difficult to make precise guesses, tax officials acknowledge the presence of non-compliance behaviours among certain taxpayers. These behaviours include underreporting income, fraudulent deduction claims, and attempts to evade taxes. Furthermore, the mention of penalties for late payment indicates the existence of enforcement measures to address non-compliance. These insights underline the complexity of tax compliance issues and the need for continued efforts to improve compliance levels through enhanced enforcement measures, taxpayer education, and outreach initiatives.

4.2. Discussion

This section discusses the results of data obtained from different sources. In the discussion, the researcher used the data obtained from survey of taxpayers and in-depth interviews held with taxpayers and officials and the evidence in the literature

Exchange fairness perception and voluntary compliance attitude

Exchange fairness perception significantly influences voluntary compliance attitude, with an odds ratio of 7.008 ($p < 0.1$), indicating a strong positive association with compliance attitude. This aligns with the reality that when taxpayers perceive their tax payments yielding indirect benefits, compliance likelihood increases. Conversely, if taxpayers perceive no return on tax payments, non-compliance becomes more probable. Specifically, the probability of tax compliance increases by 87.5% ($0.875 = 7.008 / (1 + 7.008)$) with each percentage increase in exchange fairness perception. These findings are consistent with studies by Gberegbe, Idornigie, and Davies (2015); Gberegbe and Umoren (2017); Mubarak, Munusamy, Abobakr and Al-Harethi (2020); and Verboon and Goslinga(2009) indicating that perceptions of exchange fairness with the government influence tax compliance. However, Faizal and Palil (2015) and Saad et al. (2009) found no significant positive association, and suggesting a need for further research to clarify the relationship between exchange equity and tax compliance.

Inter-group fairness perception and voluntary compliance attitude.

Inter-group fairness perception significantly influences tax compliance attitude, with an odds ratio of 3.485 ($p = 0.000$). Consequently, as inter-group fairness perception increases by a percentage, the probability of tax compliance increases by 77.6% ($0.776 = 3.485 / (1 + 3.485)$), assuming other factors remain constant. This finding is consistent with Getachew (2019), whose research demonstrates that perceptions of equal treatment within the tax system enhance compliance and foster trust in authorities.

Procedural fairness perception and voluntary compliance attitude

Procedural fairness perception significantly influences voluntary compliance attitude ($B = 2.571$, $\text{Exp}(B) = 13.077$, $p < 0.01$). The odds ratio of 13.077 ($p = 0.000$) indicates a strong positive association between procedural fairness perception and compliance attitude, corresponding to a 93% increase in the probability of tax compliance ($0.93 = 13.077 / (1 + 13.077)$), assuming other factors remain constant. This finding is supported by studies conducted by Riaz, Shafiq, Gillani, Yasin, and Kanwal (2023); Faizal and Palil (2015); Gberegbe and Umoren (2017); and Belay and Viswanadham (2016), suggesting that taxpayers

are more inclined to comply with tax obligations when they perceive fair treatment from tax authorities during taxation procedures. However, it contrasts with the findings of Farrar and Thorne (2012), indicating a need for further investigation to reconcile these discrepancies.

Horizontal fairness perception and voluntary compliance attitude

The findings indicate that horizontal fairness perception has a statistically insignificant influence on voluntary compliance attitude. This suggests that horizontal fairness perception does not significantly affect tax compliance. While horizontal fairness—perceptions of equitable treatment among taxpayers—might intuitively seem important, this result indicates that it does not play a crucial role in influencing voluntary compliance. It is possible that other forms of fairness, such as procedural or retributive fairness, are more impactful in shaping taxpayers' compliance attitudes. This could mean that taxpayers may prioritize how they are treated by the tax authorities over how they perceive their peers are treated. This finding is consistent with previous studies by Farrar and Thorne (2012), Belay and Viswanadham (2016), Saad (2009), which argued that horizontal equity had a significant positive association with compliance and contradict with Getachew (2019).

Vertical fairness perception and voluntary compliance attitude

The study reveals that vertical fairness perception exerts a statistically insignificant influence on voluntary compliance attitude. This suggests that vertical fairness perception does not significantly affect tax compliance. Vertical fairness, which pertains to the perceived fairness in the distribution of tax burdens between different income groups, may not be a primary concern for taxpayers when deciding to comply voluntarily. This could indicate that taxpayers focus more on their direct interactions with tax authorities and the perceived fairness of enforcement rather than on comparative fairness across different income levels

This finding is consistent with the results of Belay and Viswanadham (2016); Saad (2009); Kirchler et al. (2006) who found a positive association between vertical equity and tax compliance and contradict with the findings of Farrar and Thorne (2012).

Time-related fairness perception and voluntary compliance attitude

The findings indicate that time-related fairness perception has an insignificant influence on voluntary tax compliance attitude. This suggests that time-related fairness perception does not significantly affect tax compliance. Time-related fairness, which refers to the perceived fairness in the time given for tax-related processes and deadlines, may not be a critical factor for

taxpayers when deciding to comply voluntarily. This indicates that taxpayers may prioritize how they are treated by tax authorities and the fairness of the enforcement process over the fairness of time-related aspects of tax compliance. This finding aligns with a similar study conducted by Getachew in 2019.

Retributive fairness perception and voluntary compliance attitude

In this study, it was found that retributive fairness perception significantly and positively influences voluntary compliance attitude ($B = 0.849$, $p < 0.05$). With higher perceptions of retributive fairness, the odds of tax compliance increase by a factor of 2.338. This means the probability of tax compliance increases by 70% ($0.7 = 2.338 / (1 + 2.338)$) for each percentage increase in retributive fairness perception, assuming other factors remain constant. These findings support hypothesis 7 and are consistent with previous research by Gberegbe and Umoren (2017), Belay and Viswanadham (2016), and Faizal and Palil (2015). However, it contradicts the study by Farrar and Thorne (2012).

Impact of demographic characteristics on voluntary compliance attitude

Besides to independent variables, the econometric model included control variables such as age, education, gender, and business status. The result indicated that age, business status and education found significantly linked with compliance behaviour.

Individuals in managerial positions exhibited significantly higher odds of tax compliance compared to owners ($OR = 5.813$, $p = 0.016$), suggesting that managerial roles may foster greater awareness and support for tax compliance. Similarly, those holding both ownership and managerial roles showed higher compliance rates ($OR = 4.823$, $p = 0.017$), indicating a synergistic effect between ownership and managerial responsibilities.

Individuals who held both ownership and managerial roles had 4.823 times higher odds of tax compliance compared to owners ($p = 0.017$). This indicates that combining ownership with management responsibilities significantly increases the likelihood of tax compliance.

Compared to university graduates, individuals with a diploma had lower odds of tax compliance (odds ratio = 0.099, $p = 0.029$). Similar trends were observed for individuals with certificates (odds ratio = 0.074, $p = 0.027$) and those with secondary education (odds ratio = 0.034, $p = 0.012$). Illiterate individuals also showed significantly lower odds of tax compliance (odds ratio = 0.072, $p = 0.025$). These findings underscore the importance of

education in facilitating tax compliance, with higher education levels associated with higher compliance rates.

Lower education levels were associated with decreased odds of tax compliance. Diploma holders (OR = 0.099, $p = 0.029$), certificate holders (OR = 0.074, $p = 0.027$), and individuals with secondary education (OR = 0.034, $p = 0.012$) exhibited lower compliance rates compared to university graduates. Illiterate individuals also showed significantly lower compliance rates (OR = 0.072, $p = 0.025$), indicating the barrier posed by illiteracy to tax compliance. This result aligns with findings by Niway and Wondwossen (2016), who observed that education level is directly linked to a likelihood of compliance attitude, with educated taxpayers being more compliant than uneducated taxpayers. However, this result contradicts the findings of Yesegat and Fjeldstad (2016), who reported a negative correlation between education and compliance attitude, indicating that higher education levels were associated with less compliance.

Each additional year of age was associated with a 1.72 times increase in the odds of tax compliance ($p = 0.023$). Older individuals demonstrated higher compliance rates, possibly due to increased experience, stability, and a stronger sense of civic duty over time.

Overall, education and age emerged as significant predictors of voluntary compliance attitude. Higher education levels and older age were associated with higher compliance rates. These findings are consistent with previous studies, indicating a positive correlation between education, age, and compliance behavior. However, it's noteworthy that the relationship between education and compliance behavior contradicts some prior research, suggesting the need for further investigation.

The result is consistent with the study by Deyganto (2018) identified gender and age as key factors influencing voluntary compliance.

Generally, contrary to Song and Yarbrough (1987), who found a negative relationship between education and compliance behaviour, suggesting increased knowledge in tax matters could lead to noncompliance, Deyganto (2018) identified gender and age as key factors influencing voluntary compliance. However, Gberegbe, Idornigie, and Davies (2015) found no significant influence of demographic variables (age, gender, education) on personal income tax compliance behaviour. The results indicate that certain demographic characteristics, such as business status, education level, and age, significantly influence

voluntary compliance attitude among taxpayers. Specifically, individuals in managerial roles or those holding both ownership and managerial responsibilities exhibit higher levels of tax compliance compared to owners. Moreover, higher education levels are associated with higher compliance rates, while older individuals are more likely to comply with tax regulations.

4.3. Conclusion

This chapter presents the empirical findings regarding the determinants of voluntary tax compliance attitudes among taxpayers, focusing on fairness perceptions, demographic characteristics, and business status. Key findings indicate significant positive associations between various dimensions of fairness perceptions—exchange, inter-group, procedural, and retributive—and voluntary compliance attitudes. Furthermore, individuals in managerial roles and those with combined ownership and managerial responsibilities exhibit higher compliance likelihoods. Education level emerges as a critical determinant, with higher education associated with increased compliance. Age also influences compliance positively. These findings stress the multidimensional nature of tax compliance behaviour and highlight the importance of addressing fairness perceptions and demographic characteristics in tax policy and administration. Moving forward, targeted interventions and educational programs should be developed to enhance compliance rates and substitute a culture of tax compliance.

Chapter Five

5. Conclusion and Recommendation

This section presents the conclusion and recommendations. The subsequent discussion presents conclusion and recommendations in an orderly manner.

5.1. Conclusion

In conclusion, this research has investigated into the complex parts of tax compliance attitudes among taxpayers, particularly focusing on the determinants of voluntary compliance within the business profit tax system. Through a comprehensive analysis of fairness perceptions, demographic characteristics, and business status, several key findings have emerged.

Firstly, the study highlights the significant influence of fairness perceptions on voluntary compliance attitudes. Exchange, inter-group, procedural, and retributive fairness perceptions were found to have robust positive associations with compliance behavior, underscoring the importance of perceived fairness in tax administration.

Secondly, demographic characteristics such as age and education level were identified as critical determinants of compliance attitudes. Older individuals demonstrated higher compliance likelihoods, suggesting a positive correlation between age and compliance behavior. Additionally, higher education levels were associated with increased compliance, indicating the importance of tax literacy and awareness in fostering compliance.

Moreover, individuals in managerial roles and those with combined ownership and managerial responsibilities exhibited higher compliance rates, emphasizing the role of organizational structure and accountability in promoting tax compliance.

These findings contribute to our understanding of the multifaceted nature of tax compliance behavior and have implications for policymakers, tax authorities, and researchers alike. By addressing fairness perceptions, enhancing tax literacy, and implementing targeted interventions, policymakers can foster a culture of tax compliance and improve revenue collection efficiency.

Moving forward, it is imperative to continue exploring the dynamic interplay between taxpayer attitudes, institutional factors, and socio-economic variables to inform evidence-based tax policy and administration strategies. Longitudinal studies, cross-cultural comparisons, and experimental research designs offer promising avenues for further investigation into tax compliance behavior.

Overall, this research emphasizes the importance of understanding taxpayer motivations and perceptions in designing effective tax policies and interventions. By aligning tax administration practices with taxpayer expectations and promoting a sense of fairness and transparency, governments can enhance compliance rates and build trust in the tax system, ultimately contributing to socio-economic development and fiscal sustainability.

5.2. Recommendations

- Implement targeted interventions to enhance fairness perceptions among taxpayers, focusing on aspects such as exchange, inter-group, procedural, and retributive fairness.
- Develop educational programs tailored to different demographic groups, with a focus on improving tax literacy and compliance awareness.
- Strengthen enforcement measures, particularly for individuals in managerial roles, to ensure accountability and promote compliance.
- Enhance transparency and communication regarding the utilization of tax revenue to improve taxpayer trust and confidence in the tax system.
- Instead of expanding the resources on enforced compliance through more penalties and audit, the tax authorities can consider strategies and policies to ensure fairness in all features of the tax system to diminish non-compliance behaviour.
- Lastly, the study recommended that tax payers who engage in non-tax compliance should be penalized equally so as to fairly implement the tax system.

5.3. Suggestions for further Study

1. While this study provides valuable insights into the determinants of tax compliance attitude, there are several avenues for further research:
2. Longitudinal Studies: Future research could employ longitudinal studies to examine how compliance attitude evolves over time in response to changes in tax policies, enforcement strategies, and socio-economic factors.

3. Qualitative Analysis: Further qualitative analysis could explore in-depth the underlying motivations, attitudes, and perceptions driving tax compliance behavior among different taxpayer groups.

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Appendix I



Addis Ababa University

College of Business and Economic

MBA in Finance

Survey Instrument

Dear Participants;

The title of this thesis is “Impact of taxpayers’ perception of fairness on tax compliance behavior” and the name of the researcher is Desalegn Demis, who is currently an MBA student at the College of Business and Economics of the Addis Ababa University.

The aim of this research project is to assess the impact of taxpayers’ perception of fairness on tax compliance behavior of category A and B taxpayers in Bahirdar City. This survey questionnaire is prepared to solicit information supplementing the data obtained from other sources.

This survey questionnaire is being distributed to get relevant information from respondents; participation is totally voluntary. The researcher respectfully requests your kind cooperation in answering all questions as frankly as possible. Your response will be recorded anonymously, and strict confidentiality will be maintained.

For further information, please contact the researcher using the following address:

Tel. (mobile): **+251-930-005550**

E-mail: **dessademe16@gmail.com**

Thank you in advance.

Section I: Background information

1.	What is your gender?	
	Female	<input type="checkbox"/> 1
	Male	<input type="checkbox"/> 2

2.	Could you tell us which of the following age groups (in years) you are in?	
	Under 25	<input type="checkbox"/> 1
	25-34	<input type="checkbox"/> 2
	35-44	<input type="checkbox"/> 3
	45-54	<input type="checkbox"/> 4
	55-64	<input type="checkbox"/> 5
	65 and above	<input type="checkbox"/> 6

3.	What is the highest level of formal education you have completed?	
	University degree or higher	<input type="checkbox"/> 1
	Diploma	<input type="checkbox"/> 2
	Certificate	<input type="checkbox"/> 3
	Highest level of secondary school	<input type="checkbox"/> 4
	Did not complete highest level of school	<input type="checkbox"/> 5
	Never attended school	<input type="checkbox"/> 6
	<i>Other, please specify</i>	

4.	What is your current occupation /position in the business?	
	Owner	<input type="checkbox"/> 1
	Manager	<input type="checkbox"/> 2
	Owner and manager	<input type="checkbox"/> 3
	<i>Others, please specify</i>	<input type="checkbox"/> 4

5.	What is your main business activity?	
	Manufacturing	<input type="checkbox"/> 1
	Agriculture	<input type="checkbox"/> 2
	Trade	<input type="checkbox"/> 3
	Services	<input type="checkbox"/> 4
	<i>Other (please describe)</i>	<input type="checkbox"/> 6
6.	Your business is:	
	A sole proprietorship (individual ownership).....	<input type="checkbox"/> 1
	A cooperative.....	<input type="checkbox"/> 2
	A partnership.....	<input type="checkbox"/> 3
	A private limited Co.....	<input type="checkbox"/> 4
	A share Co.....	<input type="checkbox"/> 5
	A state owned	<input type="checkbox"/> 6

<i>Other, please specify</i>	<input type="checkbox"/> 7
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7.	What was the approximate Birr value of sales you/your enterprise made in 2014/15 fiscal year?	
	Under Birr 100,000.....	<input type="checkbox"/> 1
	Birr 100,001 – Birr 500,000.....	<input type="checkbox"/> 2
	Birr 500,001 – Birr 1,000,000.....	<input type="checkbox"/> 3
	Birr 1,000,001 – Birr 3,000,000.....	<input type="checkbox"/> 4
	Birr 3,000,001 - Birr 6,000,000.....	<input type="checkbox"/> 5
	Birr 6,000,001 – Birr 9,000,000.....	<input type="checkbox"/> 6
	Birr 9,000,001 –Birr 12,000,000.....	<input type="checkbox"/> 7
	Birr 12,000,001 or more.....	<input type="checkbox"/> 8

8.	How many years has it been since your business is registered for taxation?	
	Less than 1 year	<input type="checkbox"/> 1
	1-5 year	<input type="checkbox"/> 2
	6-10	<input type="checkbox"/> 3
	More than 10 years	<input type="checkbox"/> 4
	<i>Other (please describe)</i>	<input type="checkbox"/> 5

Section II fairness perception dimensions

1.	Retributive fairness perception	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.1	Individuals who deliberately evade paying their taxes are penalized with the same amount of penalty regardless of the amount of tax evaded.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
1.2	Mostly, the penalty rate imposed on those tax evaders are equal with the committed crime.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
1.3	I believe the initial late payment penalty on the unpaid tax, imposed on non-compliant taxpayers under the current tax system, is fair.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
1.4	The penalty rates are differently applied to the types of taxpayers, depending upon their evaded behaviors.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
1.5	If some taxpayers had the intentional evasions, the penalty	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

	rate is much higher than that of unintentional evasions.					
1.6	If the degree of punishment for evading tax is based on the degree of non-compliance or if penalty imposed matches the committed crime, influence the voluntary compliance.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

2.	Procedural fairness perception	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
2.1	There are a number of ways available to me to correct errors in the calculation of my tax liability, if necessary, at no additional cost.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.2	The tax assessors' committee is unbiased and don't use their power for corruption in determining my income tax liability.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.3	The tax administration controls some taxpayers who fail to comply without discrimination.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.4	There are special treatments in the income tax law that applied for small business taxpayers.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.5	The administration of the income tax system by the revenue department is consistent across years and taxpayers and not complicated.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.6	The procedures applied for the tax payers by the tax authority is fair for all individuals.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.7	The tax office treats everyone in the same manner.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.8	The tax official takes the circumstances of individual tax payers into account when taking decisions.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.9	The procedures followed by tax officials is very supportive and all category A and B tax payers treated better under the current tax system.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2.10	Perceptions of fair procedures by the tax office will have a positive effect on tax compliance.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

3.	Vertical fairness perception	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
3.1	High-income earners are subject to tax at progressively higher tax rates than low-income earners. This also applied practically.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3.2	The share of the total income taxes paid by high-income earners is much too high.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3.3	Tax assessment process is based on taxpayer's ability to pay.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3.4	Low-income earners are taxed at a lower rate than middle income earners.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3.5	The low-income earners are not taxed at a lower rate than middle-income earners.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3.6	I am willing to make tax payments if more is done to eradicate corruption within the government					

4.	Horizontal fairness perception	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.1	In the current tax system, individuals with similar amounts of income have been paid a similar amount of income tax.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4.2	I believe everyone pay their fair share of income tax under the current income tax system.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4.3	Compared to other taxpayers who has similar annually income with me, I pay my fair share of income tax.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

5.	Exchange fairness perception	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5.1	I receive fair value from the government in return for my income tax paid (e.g. benefits).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.2	I believe the government utilizes a reasonable tax amount of revenue to achieve social goals.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.3	When I compare the amounts of income taxes that I pay, with services I receive from government, I find that the tax income is fair.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

5.4	Perceptions of unfair distributions of benefits will lead to lower levels of tax compliance.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.5	I get my fair value in terms of benefits received from the government example, education, medical, and infrastructure.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.7	I agree that people are getting comparable social services from the government for the tax they pay.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.9	The income tax that I have to pay are unreasonably high considering the benefits provided by the governments.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.10	The benefits I receive from the government in exchange for my income-tax birr are reasonable.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.11	The income taxes that I have to pay are fair considering the benefits I receive from the government.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.12	I feel that I receive reasonable benefits from the government in comparison with the amounts of income taxes I pay.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.13	The amount of tax revenue is justified with current government spending on social projects	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5.14	I am willing to pay more taxes if the government introduced more social benefits.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

6.	Time-related fairness perception	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
6.1	The income estimated for small businesses taxpayers don't considers inflation and the amount of income they earn/lose across time.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6.2	Some tax payers pay their tax on time but not all.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6.3	The tax authority doesn't motivate all tax payers fairly to pay their tax on time.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6.4	The daily sales estimation only considers the good seasons of business activities and ignores seasons with low business activities.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

6.5	The daily sales estimation does not consider the average income of my business across time.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6.6	Every income tax is not levied at the time or in the manner that makes it the most convenient for me to pay it.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

7.	Inter group fairness perception	Strongly disagree	Agree	Neutral	Agree	Strongly agree
7.1	Certain groups of taxpayers were more favored than others in the assessments of taxes.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
7.2	Income tax deductions are not fair because most groups of taxpayers can't benefit from those deductions, and just only the wealthy taxpayers.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
7.3	Some groups are favored to the detriment of another without good cause.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
7.4	As tax payers knows many people in group important to them are evading taxes, their commitment to comply will be weaker.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

In-depth Interviews and open-ended questions– to category A and B Bahirdar City administration business profit taxpayers.

1. What do you think of the current business profit tax system?
2. Is the current business profit tax system fair/unfair? Could you please elaborate on the aspects (dimension) that you think it is fair/unfair?
3. How do you perceive the fairness of the tax system? Does the level of perceptions on fairness leads to voluntary tax compliance?
4. Do you believe that a fair tax system would improve voluntary tax compliance?
5. Do you think that the government spends tax revenue properly?
6. Do you believe the service rendered by your organization is fast and clear?
7. Have you attended/passed any formal taxation course/training organized by the tax authority?
8. Do you have a good knowledge of what cause a penalty and fines this helps you to comply?
9. Do you believe that having good tax knowledge encourages tax compliance?
10. In general, according to the above fairness dimensions, would you agree that the business income tax burden imposed upon category A and B tax payers is fair?

11. Please state if you have any comments on fairness of the tax system

Voluntary tax compliance behaviour

Instruction: For the following statements, choose the one best to describe your perception and please indicate your choice by putting the mark (√) where you think is appropriate in the space provided to each preference.

		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	It is everyone's responsibility to pay the correct amount of tax	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	It is everyone's responsibility to comply with the tax laws	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	Underpaying tax does not do anyone any harm	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	It does not matter if people claim a lot more in deductions than they are entitled to	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	It does not matter if people claim a little more in deductions than they are entitled to	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	One should honestly declare all income on one's tax return	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	It is easy to evade paying taxes in Ethiopia	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	There are taxpayers that evade taxes but nothing happens to them	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	It is acceptable to overstate tax deduction on one's tax return	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5



Addis Ababa University

College of Business and Economic

MBA in Finance

Dear Participants;

The title of this thesis is “Impact of taxpayers’ perception of fairness on tax compliance behavior” and the name of the researcher is Desalegn Demis, who is currently an MBA student at the College of Business and Economics of the Addis Ababa University.

The aim of this research project is to assess the impact of taxpayers’ perception of fairness on tax compliance behavior of category A and B taxpayers in Bahirdar City. This survey questionnaire is prepared to solicit information supplementing the data obtained from other sources.

Thank you in advance.

Unstructured interview questions for tax officials

1. Do you think that compliance behavior is affected by people's perceptions on the fairness of the income tax system?
2. Do you believe that there is a voluntary tax compliance in the city?
3. As you are staff of the authority, what is the tax payers' compliant level lookalikes?
4. Does the tax administration fairly treat the taxpayers?
5. How do you guess the size of taxpayers who are not willing to pay taxes?

Appendix II

Heteroscedasticity test

Chi ² (1)	Prob-value
96.83	0.0000

Robust Logistic regression

Tax	Odds ratio	St.Err.	zvalue	p-value	[95% Conf Interval]	Sig
Meanrfp	2.338	.999	1.99	.047	1.012 5.4	**
Meanvfp	1.201	.212	1.04	.3	.85 1.696	
Meanhfp	1.254	.356	0.80	.426	.718 2.188	
Meanefp	7.008	3.127	4.36	0.00	2.922 16.804	***
Meantfp	1.138	.288	0.51	.61	.693 1.87	
Meanifp	3.485	.877	4.96	0.00	2.128 5.708	***
mean_pfp	13.077	8.78	3.83	0.00	3.508 48.751	***
Female	1	
Male	1.159	.651	0.26	.793	.385 3.487	
Agetaxpa	1.72	.411	2.27	.023	1.076 2.747	**
bsta1	5.813	4.229	2.42	.016	1.397 24.191	**
bsta2	4.823	3.167	2.40	.017	1.331 17.472	**
edu1	.099	.104	-2.19	.029	.012 .786	**
edu2	.074	.087	-2.22	.027	.007 .739	**
edu3	.034	.046	-2.51	.012	.002 .475	**
edu4	.068	.126	-1.45	.147	.002 2.57	
edu5	.072	.085	-2.23	.025	.007 .724	**
Constant	0	0	-6.10	0.00	0 0	***

Mean dependent var	0.837	SD dependent var	0.370
Pseudo r-squared	0.438	Number of obs	362
Chi-square	75.258	Prob > chi2	0.000
Akaike crit. (AIC)	214.908	Bayesian crit. (BIC)	281.065

*** $p < .01$, ** $p < .05$, * $p < .1$

Multicollinearity

Variance inflation factor

	VIF	1/VIF
edu3	3.84	.26
edu1	3.187	.314
edu2	2.552	.392
edu5	2.493	.401
meanhfp	2.017	.496
meantfp	1.935	.517
meanvfp	1.841	.543
meanefp	1.734	.577
meanifp	1.634	.612
mean_pfp	1.384	.722
bsta1	1.219	.82
edu4	1.214	.824
bsta2	1.121	.892
meanrfp	1.097	.912
agetaxpa	1.053	.95
Mean VIF	1.888	.

Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) meanrfp	1.000										
(2) meanvfp	-0.092	1.000									
(3) meanhfp	-0.066	0.495	1.000								
(4) meanefp	0.150	-0.169	-0.113	1.000							
(5) meantfp	-0.132	0.135	0.123	-0.454	1.000						
(6) meanifp	-0.167	0.182	0.052	-0.396	0.518	1.000					
(7) mean_pfp	0.091	0.089	-0.050	0.402	-0.069	0.002	1.000				
(8) agetaxpa	0.034	-0.144	-0.153	0.026	-0.030	-0.019	-0.050	1.000			
(9) edulevel	-0.058	-0.197	-0.386	0.025	-0.175	0.032	0.069	0.031	1.000		
(10) sex	-0.100	-0.265	-0.268	0.064	-0.043	-0.016	-0.074	0.117	0.463	1.000	
(11) bstatus	-0.088	-0.135	-0.054	-0.026	0.068	0.051	-0.126	0.013	-0.024	0.092	1.000

Model specification (link test)

Logistic regression

Number of obs = 362

LR chi2(2) = 141.07

Prob > chi2 = 0.0000

Log likelihood = -90.406855

Pseudo R2 = 0.4383

tax	Coefficient	Std.err	z	P>z		[95% conf.
_hat	1.054	0.188	5.600	0.000	0.685	1.423
_hatsq	-0.022	0.053	-0.420	0.676	-0.125	0.081
_cons	0.018	0.223	0.080	0.934	-0.419	0.456

Goodness-of-fit test after logistic model

Variable: tax

Number of observations = 362

Number of covariate patterns = 362

Pearson chi2(346) = 388.36

Prob > chi2 = 0.0577

Logistic model for tax

Number of observations = 362

Area under ROC curve = 0.9193

