

Original Paper

<https://doi.org/10.15826/jtr.2022.8.3.121>



Determinants of Business House Rental Income Taxpayers' Compliance with Tax System in Afar Region, Northeast Ethiopia

Abibual Getachew Nigatu  , Atinkugn Assefa Belete 

Samara University, Semera, Ethiopia

 abibual8@gamil.com

ABSTRACT

The biggest impediment to the Ethiopian government's ability to raise revenue by its means to the required level is the lack of taxpayers' compliance behavior with the tax system. Therefore, this study examines the key determinants of taxpayers' compliance behavior with the tax system in the Afar regional state. To this end, two purposively selected woredas (Awash and Aba'ala) and one city administration (Samara-logia) were used. Primary data were collected from 404 randomly selected respondents. The ordered logistic regression model was used to analyze the factors that determine tax compliance. Results show that tax knowledge, probability of detection, perception of government spending, organizational strength of the tax authority, fairness of the tax system, and simplicity of the tax system have positive effects on tax compliance, whereas tax rates have a negative effect on tax compliance in the Afar regional state. As a result, it is suggested that the tax authorities launch effective and brief awareness-development and tax education programs for the general public and taxpayers in particular. The tax system, notably the tax return, tax forms, and tax rules, should be simplified by the tax authorities so that they are readily understood by taxpayers. Furthermore, the tax authorities should be powerful enough to effectively and efficiently enforce the tax laws, and to ensure tax fairness, their tax liability must be determined by their ability to pay. Lastly, the government must maintain accountability and transparency in how tax revenue is dispensed, as well as deliver social services to the public efficiently and intelligently so that taxpayers have faith in and a favorable attitude toward the taxes they pay and the tax system.

KEYWORDS

tax compliance, rental income tax, ordered logit, Afar region, Ethiopia

JEL D22; G40

УДК 336.228

Детерминанты соблюдения налогового законодательства плательщиками налога на доходы в регионе Афар, Северо-Восточная Эфиопия

Абибуаль Гетачью Нигату  , Атинкугн Ассефа Белете 

Самарский университет, г. Семера, Эфиопия

abibual8@gamil.com

АННОТАЦИЯ

Несоблюдение налогоплательщиками налогового законодательства является существенным препятствием для правительства Эфиопии в увеличении собственных доходов до необходимого уровня. В исследовании рассматриваются ключевые детерминанты соблюдения налогоплательщиками налогового законодательства в регионе Афар. Для целей исследования выбраны два поселения

(Аваши и Абаала) и одна городская администрация (Самара-логия). Первичные данные собраны у 404 респондентов посредством случайной выборки. Для анализа факторов, определяющих соблюдение налогового законодательства использовалась упорядоченная модель логистической регрессии. Результаты, полученные в регионе Афар показали, что налоговые знания, вероятность обнаружения, восприятие государственных расходов, организационный потенциал налогового органа, справедливость налоговой системы и простота налоговой системы оказывают положительное влияние на соблюдение налогового законодательства, в то время как налоговые ставки имеют отрицательное влияние. В результате предлагается, чтобы налоговые органы запустили эффективные и краткие программы повышения осведомленности и налогового образования для широкой общественности и налогоплательщиков в частности. Налоговая система, в частности налоговая декларация, налоговые формы и налоговые правила, должны быть упрощены, чтобы быть понятными налогоплательщикам. Кроме того, налоговые органы должны быть достаточно сильными, чтобы эффективно и действительно обеспечивать соблюдение налогового законодательства. При этом для обеспечения налоговой справедливости налоговые обязательства налогоплательщиков должны определяться их платежеспособностью. Наконец, правительство должно поддерживать подотчетность и прозрачность в том, как распределяются налоговые поступления, а также предоставлять социальные услуги населению эффективно и разумно, чтобы налогоплательщики верили и благосклонно относились как к налогам, которые они платят, так и к налоговой системе в целом.

КЛЮЧЕВЫЕ СЛОВА

соблюдение налогового законодательства, налог на доход от аренды, логистическая упорядоченная модель, регион Афар, Эфиопия

1. Introduction

The development and economic growth of any nation are typically dependent on the volume of revenues that the country can earn and invest in public infrastructure [1]. Taxes are crucial as the government's principal source of revenue and a means of funding critical programs such as education, welfare, public safety, health care, infrastructure, and road development for the public at large [2]. As a corollary, to continue economic growth and achieve infrastructure and social development, all governments across the world should raise their tax revenue in proportion to their gross domestic product (GDP) [3].

Many developed countries, such as the United States (US), the United Kingdom (UK), and Australia, can generate sufficient tax revenue to fund their respective governments' activities [4]. For instance, the tax proportion in the UK and Australia from 2008 to 2017 was 32.53 percent and 29.73 percent, respectively¹. Improved tax compliance amplifies the revenues avail-

able for supporting public services without raising the present tax burden on complying taxpayers.

However, there is a tax noncompliance behavior with tax obligations in developing countries, especially in sub-Saharan African countries, which reduces the ability to generate the desired amount of money and results in budget deficits Ahlerup et al. [5]. As it does in some other developing nations, non-compliance is a serious challenge slackening income tax administration and tax revenue performance in Ethiopia [6].

Despite the various tax reforms undertaken by the Ethiopian government to increase tax revenue over the years, prior statistical evidence has proven that the contribution of income taxes to the government's total revenue remained consistently low and is relatively shrinking. Ethiopia has a low tax ratio compared to average sub-Saharan African countries and other low-income countries (like Mozambique, Congo Republic, Cape Verde, and Liberia).

The Ethiopian income tax and tax administration laws approved in 2016 aimed at improving tax collection, broadening

¹ Revenue Statistics - OECD countries: Comparative tables. 2020. <https://stats.oecd.org/index.aspx?DataSetCode=REV>

the tax base, and setting up a more efficient tax system overall. Some progress has been achieved to date although much more remains to be done. Reforms have strengthened integrity and enforcement, with significant improvements in taxpayers' assistance and service. However, taxpayer compliance improvements are still slow. For example, growth and transformation plan II from 2016 to 2021, aim to increase tax to gross domestic product (GDP) from 13.3 percent in 2014/15 to 17.2 percent of GDP by 2019/20. However, the tax to GDP ratio has been declining over time till 2020. According to, the International monetary fund country report, Ethiopia's tax to GDP ratio was declining from 13.3% of gross domestic product (GDP) in 2015 to 11.6% of GDP in 2020 below other low-income countries². This is why the tax compliance attitude topic is an important agenda in Ethiopia and need an examination.

Tax compliance has been given a big emphasis by researchers in many countries around the globe because of increasing non-compliance especially tax evasion and its consequences on the capacity of the government in raising public revenue [7].

In Ethiopia, previously scant research has been done on tax compliance from the business income taxpayer's perspective. Some of these are Tehulu & Dinberu [8] examined determinants of tax compliance behavior in Ethiopia: the case of Bahir Dar City, perception of government spending; perception of equity and fairness of the tax system; penalties; and referral group are factors that affect tax compliance. Deyganto [9] did a study on Factors influencing taxpayers' voluntary compliance attitude with the tax system: Evidence from Gedeo zone of Southern Ethiopia, tax knowledge, simplicity of tax system, probability of being audited, and perception of tax rate were found to be key factors influencing taxpayers' voluntary compliance attitude.

And also, a few studies were conducted on rental income taxpayers' com-

pliance in Ethiopia, such as Vadde & Gundarapu [10] conducted a study on factors that influence rental taxpayer's compliance with the tax system: an empirical study of Mekelle city, Ethiopia, and conclude that intentional tax avoidance (presence of dishonest taxpayers), lack of knowledge and awareness taxpayers were found to be the major factors for tax compliance issues. Geremew [11] studied the factors affecting rental income taxpayer's compliance with the tax system: A case of Hawassa City Administration, Ethiopia, Financial constraints, referent group influences, awareness of taxpayers, perception of tax fairness, understatement of income, educational status, absence of government incentives, trust in tax assessment and collection procedure, and rental tax audit were significant factors that determine tax compliance.

However, those studies used descriptive and multiple linear regression models as the data analysis method. While reviewing the related literature, the conclusions of many researchers in different parts of Ethiopia are inconsistent, as are the findings of earlier studies. In one study, some variables are significant, but in another, they are not. This grabbed the attention of the researchers, who decided to look into it more. In addition, no study had been done in the Afar regional state of Ethiopia to examine the magnitude of the factors that determine a rental income taxpayer's compliance status so far.

The main purpose of the study aimed to examine the key determinants of rental income taxpayers' compliance behavior with the tax system in the Afar Region state by using an ordered logit model.

In line with the above general purpose, this study has the following *specific purpose*:

- 1) To investigate how economic factors, such as tax rate, perception of government spending, and penalty rate, affect tax compliance.

- 2) To see the effect of institutional factors like organizational strength of tax authority, simplicity of tax system, and probability of detection of evasion on tax compliance.

² <https://www.imf.org/en/Countries/ETH>

3) To examine the influence of social factors, perceptions on equity and fairness of tax system, and peer influences on compliance behavior of tax system.

4) To identify the effect of individual factors, such as tax knowledge and awareness on the compliance attitudes of taxpayers in the region.

To address the objective, this study pointed out the following hypothesis, the validity of which will be confirmed or refuted:

H1: There is a negative significant relationship between high tax rates and tax compliance.

H2: There is a positive significant relationship between taxpayers' perceptions of government spending and tax compliance in the Afar regional state.

H3: Penalty rate has a significant and positive relationship with tax compliance.

H4: There is a significant positive relationship between organizational strength of tax authority and tax compliance.

H5: Simplicity of the tax system has a positive and significant relationship with tax compliance.

H6: There is a positive significant relationship between the probability of detection of evasion and tax compliance.

H7: There is a positive significant relationship between the perceived fairness of the tax system and tax compliance of rental income taxpayers.

H8: The influence of the reference group is a negative and significant relationship with tax compliance.

H9: There is a positive significant relationship between tax knowledge and tax compliance.

2. Literature review

2.1. The concept of tax compliance

Tax compliance is defined as fulfilling reporting requirements, which means that taxpayers file all required tax returns on time and accurately report tax liability in line with the Internal Revenue Code, regulations, and court decisions applicable at the time the return is filed [12].

Palil & Mustaph [13] offered an alternative definition, and described tax compliance as the willingness of taxpayers to

register for tax purposes, file tax returns on the due date, report accurate tax liabilities and pay all tax liabilities within the stipulated period without having to wait for follow-up actions from the tax authority. In general, compliance means behaving in conformity with the law, while non-compliance means breaking the law. Based on the aforementioned definitions, tax compliance can be defined as taxpayers' intention or readiness to act in line with the tax law, as well as their voluntary endeavor to pay their tax liability on a timely basis.

2.2. Determinants of tax compliance

In this section, we are trying to review determinants of tax compliance with the tax system. Different factors may influence the tax compliance behavior of Ethiopian taxpayers. Even though, such factors do have not equal influences and advantages among different places and taxpayers. This indicates that the importance of a certain variable in one place at a certain time may not necessarily be a significant factor in other places even in the same place after some time.

As Loo et al. [14] describes a comprehensive description of the factors that determine tax compliance splitting as economic factors (tax rate, level of income, probability of being audited, and perception of government spending), institutional factors (simplicity of tax system, the organizational strength of tax authority, and change in government policy), social factors (perception on equity and fairness of tax system and peer influence), individual factors (tax knowledge, personal financial constraints) and demographic factors (age, gender, level of education, marital status and occupation).

2.2.1. Economic factors

Engagements that are tied to the cost and benefits of doing the activities are known as economic factors that influence tax compliance such as tax rates, perceptions of government spending, and penalty rates [15].

Tax rate refers to the tax amount charged on taxable items and paid by taxpayers as stipulated by tax law [16].

Varied experts discovered different outcomes when it came to the effect of the tax rate on compliance.

Ottone et al. [17] state that higher tax rates encourage taxpayers to evade and avoid tax. This suggests that a tax rate that is viewed as high, unjust, and unfair deters taxpayers from adhering to the tax laws and regulations. On other hand, Adimassu & Jerene [18] depicted that tax compliance increases with a heavy tax rate. Contrarily, Assfaw & Sebhat [19] concluded that taxpayers' decision either to comply or not regardless of tax rates. These results show that, due to several contradictory results, the impact of tax rates on tax compliance is still unclear and debatable in different parts of Ethiopia, even in the same tax structure.

Particularly those who pay high tax rates will be eager in how the government spends their money, in terms of how taxpayers perceive government expenditure. Taxpayers are more likely to pay their fair share of taxes if they see the government using tax dollars wisely to fund essential services like public transportation, health care, and education. However, if they perceive that the government is overspending on items that they believe are unnecessary or unhelpful to the general populace, they may feel betrayed and try to avoid paying their fair share. Jayawardane & Low [20] state that taxpayers pay their taxes honestly if they get valuable public services in exchange. In opposite to this, Engida & Baisa [6] discovered that perception of government spending did not significantly impact taxpayers' compliance.

In terms of penalty rate, a penalty is money paid to government authority as a punishment for a crime or other offense. Scholars' findings about the effect of penalty rates on tax compliance are inconsistent. For instance, Ahmed & Kedir [21] state that the greater the penalty discourages the potential of tax evasion, that is when taxpayers perceived that there is a high penalty rate for any non-compliance the level of non-compliance will decrease. On the contrary, Adimassu & Jerene [18] originate penalty rate did not significantly correlate with tax compliance.

In conclusion, the outcomes of previous studies show that there is no clear line between penalty rate and tax compliance.

2.2.2. Institutional factor

Although taxpayers' compliance behavior is determined by their economic concerns, evidence reveals that institutional variables like organizational strength of tax authority, simplicity of tax system, and probability of detection of evasion also have a substantial impact on taxpayers' compliance behavior.

Tax compliance places the government and the tax authority as the primary parties responsible for administering the tax system to reduce the tax gap and improve voluntary compliance [22]. Efficiency and effectiveness of the authority in improving the tax assessment and procedures of tax collection, the building of awareness, and enforcement of the tax law influence positively the voluntary tax compliance behavior of taxpayers [23]. Besides, Richardson [24] also stated that the role of a government has a significant positive impact on determining attitudes toward tax. But, the studies of Deyganto [9] on determinants of tax compliance behavior of taxpayers indicated that the roles of the tax authority were not significantly correlated with tax compliance.

The tax system ought to be as easy as possible for the rationale that taxpayers are from varied backgrounds, with totally different levels of education, earning levels, various cultures, and different tax awareness. In serving taxpayers to complete the tax returns accurately, the tax authority needs to have a simple, but sufficient, tax return [21]. Taxpayers' levels of understanding of tax laws are positively correlated to a significant degree with their tax compliance decisions [22]. Most of the time taxpayers not only find it difficult to file their tax returns correctly but also perceive tax law complexity and ambiguity as causes of tax non-compliance [20].

A tax audit can play a major role in improving tax administration and overall taxpayer compliance by impacting taxpayer behavior. The contribution of tax

audits to improving taxpayer compliance is significant among other measures taken by revenue authorities of the country [25]. Admasu & Shallo [26] conclude that the likelihood of tax evasion discovery was the significant determinant that affected the level of tax compliance. This suggests that the level of tax compliance will improve as the likelihood of detection rises. On other hand, Adimassu & Jerene [18] stated that a high probability of being detected would potentially decrease compliance creating a negative association. This means that an effective audit induces taxpayers to overclaim deductions rather than encouraging them to correctly report actual income. Contrariwise, Tehulu & Dinberu [8] conclude that the probability of detection did not significantly affect tax compliance.

These findings demonstrate that, due to a variety of inconsistencies, the effect of tax rates on tax compliance in various regions of the nation within the same tax system is still disputed and unclear.

2.2.3. Social factors

From a sociological perspective, variables impacting tax compliance have to do with taxpayers' inclination to uphold the law in response to other people's behavior and their social setting [27].

Besides, Kirchler et al. [28] state that social factors should be viewed in a wider logic than a social viewpoint; this contains the psychology of the taxpayers. These factors include perceptions of equity and fairness, changes to current government policy, and referent groups.

Perceptions of equity or fairness in the tax system are principles of the tax system, which can be observed through three-dimensional views; horizontal equity (people with identical income should pay an equal amount of taxes), vertical equity (taxes paid increase with the amount of taxable revenue) and Exchange Equity (expectation the same portion of public service from the government for paying tax Torgler [27]. The perception of taxpayers toward the fairness of the tax system also has an impact on tax compliance status [24]. Ahmed & Kedir [21] depicted that, if taxpayers believe their

tax burden is more than that of other persons in their income group, their tax compliance probably decreases.

Decisions either to evade or not to evade tax sometimes are influenced by family members or friends [29]. Torgler [30] concludes that citizens' perception of how compliant other citizens are has a strong impact on their willingness to comply. Similarly, Inasius [31] portrayed that influence from family and friends significantly affects taxpayers' compliance behavior. This means if a taxpayer prefers to be compliant with tax law, then the tendency to commit tax evasion is lower, and vice versa. Therefore, the influence of referent groups on decision-making is presumably significant, especially when it comes to monetary considerations and legal compliance. On contrary, Deyganto [9] referent group has no significant influence on tax compliance attitude.

2.2.4. Individual factors

Several factors may influence a taxpayer's decision on tax compliance, but the taxpayer ultimately has the power to decide. The choice of whether to comply with tax laws is mostly up to the taxpayer [32]. factors like personal financial constraints, tax knowledge, and awareness of taxpayers have a significant impact on taxpayer compliance status.

Numerous studies have evaluated the impact of awareness and knowledge on compliance levels. Tax knowledge is correlated with a taxpayer's capacity to comprehend tax law and rules and willingness to abide by them. Through education, the taxpayer learns about their rights, duties, and tax-payment processes as well as the repercussions of not obeying [33]. Mutai and Omwono [34] state that tax compliance would increase with higher tax knowledge. This argues that raising taxpayers' knowledge of tax laws and regulations through formal and informal education will have a favorable effect on taxpayer awareness to pay taxes. Whereas, Palil [35] claimed that as taxpayers get enough tax knowledge, they will use this knowledge to find loopholes that can help them escape from paying their tax liability.

3. Methods

3.1. Description of the study area

The Afar region is a regional state in northeastern Ethiopia and the homeland of the Afar people. Its capital is the planned city of samara, which lies on the paved Awash-Assab highway. Afar Regional State has a population of 1,812,002, among these 991,000 men and 821,002 women; urban inhabitants number 346,000 of the population, a further 1,466,000 were pastoralists [36].

3.2. Source of data and method of collection

In this study to get complete, accurate, and sufficient data both primary and secondary sources of data were used. Primary data were collected by distributing questionnaires to the taxpayers. Secondary data were obtained from published and unpublished sources.

3.3. Sample size and sampling procedure

In this study, a multi-stage sampling method was used. In the first stage, out of thirty-four districts, two towns (Awash and Aba'ala) and one city administration (Samara-logia) were selected purposively because registered rental income taxpayers are large in those areas. In the second stage, the sample size for each selected area was determined proportionally to the number of rental income taxpayers within each town and city.

Finally, 404 business house rental income taxpayers were selected based on the random sampling method. In this study, the sample size is determined from the total population by using Yamane [39] formula as follows by considering a sample error of 4%.

$$n = \frac{N}{(1 + N(e)^2)} = \frac{1144}{(1 + 1142(0.04)^2)} = 404.$$

3.4. Model

In this study ordered logistic estimation was applied to measure the level of tax compliance in the study area. Tax compliance was measured by using hypothetical questions adopted and developed

with some modifications from previous similar studies such as Palil [35], and Engida & Baisa [6] in which respondents were asked to rate each question by using the Likert scale (ranges from one to five) from strongly disagree to strongly agree.

The average score of all items was taken as an index for tax compliance status. Based on this score, taxpayers were categorized into three levels of compliance: low, medium, and high. Tax compliance level, the observed ordinal variable, takes on values 0 through m according to the following scheme:

$$Y_i = j \Leftrightarrow \mu_j - 1 < Y_i^* \leq \mu_j,$$

where $j = 0, \dots, m$.

Accordingly, the probability of each tax compliance status (Low- y_1 , medium- y_2 , and high- y_3) will be computed as follows:

$$y_1 = 1 \text{ if } y_i^* \leq u_1,$$

$$y_2 = \text{if } u_1 < y_i^* \leq u_2,$$

$$y_3 = \text{if } y_i^* > u_2.$$

Therefore, the model can be specified as follows:

$$\begin{aligned} TCOMPL_i = & \beta_0 + \beta_1 TAXKNOW + \\ & + \beta_2 PRODET + \beta_3 PENRATE + \\ & + \beta_4 SIMPL + \beta_5 ORGSTR + \beta_6 FAIR + (1) \\ & + \beta_7 PERGOVS + \beta_8 TAXRATE + \\ & + \beta_9 PEERINF + e_i. \end{aligned}$$

4. Results

4.1. Study of correlation between variables

Table 2 depicts the association between the variables used in this study. According to the spearman correlation result, all independent variables except for tax knowledge and penalty rate were significantly correlated with tax compliance status. The highest correlation occurred between compliance and tax rate ($r = -0.5687$) followed by fairness of tax system ($r = 0.4092$), perception toward government spending ($r = 0.3846$), peer influences ($r = -0.3498$), probability of detection ($r = 0.2664$), simplicity of tax system ($r = 0.1802$) and organizational tax authority ($r = 0.1346$).

According to Spearman correlation result, it was suggested that probability of detection, peer influence, tax rate, perception of government spending, organizational strength of the tax authority, fairness of tax system, and simplicity of the tax system were the most significant determinants of business house rental income taxpayer’s compliance status in the Afar region. According to Hair et al. [38], a correlation coefficient of greater than 0.7 indicates substantial collinearity among independent variables.

Table 2 indicates that there is no problem with multicollinearity in this study.

4.2. Determinants of rental income taxpayer’s compliance status

As depicted in Table 3, ordered logistic regression was conducted for all variables and indicates tax knowledge, probability of detection of tax evasion, tax rate, perceptions of taxpayers to government spending, organizational strength of tax authority, fairness of tax system, and simplicity of tax system were found to be statistically significant factors that determine tax compliance of business house rental income taxpayers.

Specifically, the robust ordered logit regression results show the existence of a statistically significant positive relation between tax compliance behavior and tax knowledge. In terms of marginal effects, other aspects held constant as one point increases the taxpayer’s knowledge and awareness of the tax system shows a decrease in the likelihood of the behavior that compliance status occurs low (7.6%), even though it also shows an increase in the likelihood of the behavior that compliance status occurs medium (6.3%) and high (1.2%) (see Table 3).

Regarding the probability of detection of evasion and compliance behavior, the results of ordered logit regression show a positive and statistically significant association. The marginal effect also depicts that being other factors held constant, in a one-level increase the probability of detection of evasion is likely to reduce the probability of the behavior that compliance status occurs low (16.4%), This is also likely to increase the probability of the behavior that compliance status occurs medium (13.7%) and high (2.7%).

Table 1

Description of Variables			
Variable	Symbol	Measurement	Expectation sign/ hypothesis
Dependent variable			
Tax compliance Status	TCOMPS	(1,2,3) Ordinal	
Explanatory variable			
Tax rate	TAXRATE	(1-5 likert scale)	- (high tax rate, low compliance)
Probability of detection	PRODET	(1-5 likert scale)	+ (high probability, high compliance)
Penalty rate	PENRATE	(1-5 likert scale)	+ (high penalty, High Compliance)
Simplicity of tax system	SIMPL	(1-5 likert scale)	+ (very simple tax system, high compliance)
Organizational strength of tax authority	ORGSTR	(1-5 likert scale)	+ (strong tax authority, High Compliance)
fairness of tax system	FAIR	(1-5 likert scale)	+ (good perception, high compliance)
Perception to government spending	PERGOVS	(1-5 likert scale)	+ (good perception, high compliance)
Peer influence	PEERINF	(1-5 Likert scale)	- (high influence, low compliance)
Tax knowledge	TAXKNOW	(1-5 likert scale)	+ (high tax knowledge, high compliance)

Note: “-” negatives and “+” positive
 Source: Own computation, 2022

Table 2

Spearman Correlations Matrix

	TCOMPS	TAXKNOW	PENRATE	PRODET	PEERINF	TAXRATE	PERGOVS	ORGSTR	FAIR	SIMPL
1. TCOMPS	1.0000									
2. TAXKNOW	0.0465	1.0000								
3. PENRATE	0.0020	-0.1379**	1.0000							
4. PRODET	0.2664**	0.2195**	-0.0267	1.0000						
5. PEERINF	-0.3498**	-0.0188	0.1872**	-0.3089**	1.0000					
6. TAXRATE	-0.5687**	0.1114*	0.0621	-0.0385	0.4383**	1.0000				
7. PERGOVS	0.3846**	0.2221**	-0.0912	0.1787**	-0.1827**	-0.2077**	1.0000			
8. ORGSTR	0.1346*	0.1384**	-0.1268*	0.0902	-0.0368	0.0899	0.1817**	1.000		
9. AIR	0.4092**	-0.2654**	0.1839**	0.0927	-0.2554**	-0.4919**	-0.0270	-0.0495	1.0000	
10. SIMPL	0.1802**	-0.2549**	0.2133**	-0.1251*	-0.0067	-0.2486**	-0.2111**	-0.1312**	0.3824**	1.0000

Note: ** Correlation at 1 % level of significance *correlation at 5%level of significance

Table 3

Ordered logistic result on determinants of rental income taxpayers' compliance

TCOMPL	Coef.	Robust Std. Err.	Z	Marginal Effects		
				Low	Medium	High
TAXKNOW	0.3533238*	0.1413064	2.50	-0.076147	0.0635533	0.0125937
PENRATE	0.196118	0.1916769	1.02	-0.0422666	0.0352763	0.0069903
PRODET	-7649486**	0.1997547	3.83	-0.11648588	0.1375934	0.0272654
PEERINF	-0.2431375	0.2066341	-1.18	0.0524001	-0.0437338	-0.0086663
TAXRATE	-1.112442**	0.1527199	-7.28	0.2397493	-0.200098	-0.0396513
PERGOVS	1.435832**	0.2345215	6.12	-0.3094451	0.258267	0.051178
ORGSTR	0.675029**	0.253221	2.67	-0.1454796	0.1214193	0.0240604
FAIR	0.8108385**	0.2098837	3.86	-0.1747488	0.1458477	0.0289011
SIMPL	0.5898819**	0.1388865	4.25	-0.1271291	0.1061036	0.0210254
/cut 1	9.923501	1.524241				
/cut 2	13.96234	1.649864				

Number of obs = 404

Wald chi2(9) = 191.96

Prob > chi2 = 0.0000

Pseudo R2 = 0.3368

Log pseudo likelihood = -262.70796

Note: ** Correlation at 1 % level of significance *correlation at 5%level of significance

Source: survey results and own computation, 2022

Regarding the tax rate and tax compliance status, the results of ordered logit regression show a negative and statistically significant association. The marginal effects indicate that a one-point increase in the tax rate is likely to increase the probability of the behavior that compliance status occurs low (24%), This is also likely to decrease the probability of the behavior that tax compliance status occurs medium (20%) and (high 4%).

The correlation between the perception of taxpayers toward government spending and compliance attitude is also investigated. The results of ordered logit regression show the existence of a positive and statistically significant correlation between the two. In terms of marginal effects, as Table 3 shows, a one-point increase in the positive perception of taxpayers toward government spending shows a decrease in the likelihood of the attitude that compliance status occurs low (30.9%); it also shows an increase in the likelihood of the attitude that tax compliance status occurs medium (25%) and high (5%) (see Table 3).

The ordered logit regression results show the existence of a statistically significant positive relation between tax compliance behavior and organizational strength of tax authority. The marginal effect indicated that other factors remain constant, an increase in the organizational strength of tax authority (Specifically, in tax assessment and collection, awareness creation, providing information, and enforcement action) by one point, is likely to result in a decrease in the probability of the behavior that compliance status being low (14.5%), and an increase in the view that compliance status occurs medium (12.1%) and high (2.4%).

Perception of taxpayers about the fairness and equity of the tax system and tax compliance are found to have a statistically significant positive relation, as revealed in the ordered logit regression estimates. This denoted that being other factors held constant, A one-point increase in the perception of fairness and equity of the tax system is likely to reduce the probability of the behavior that compliance status oc-

curs low (17.4%), This is also likely to increase the probability of the behavior that compliance status occurs medium (14.5%) and high (2.9%).

The finding of this study concerning the simplicity of the tax system has a positive and significant relationship with tax compliance behavior. In terms of marginal effects, other issues held constant, An increase in the level of simplicity of the tax system (the clarity of tax law and regulation to understand by the taxpayers easily) is likely to reduce the probability of the behavior of compliance status occurs low (12.7%), This is also likely to increase the probability of the behavior that compliance status occurs medium (10.6%) and high (2.1%) (see Table 3).

5. Discussions of Results

This paper has examined the correlation between compliance behavior and its determining factors, as identified in the literature review section. Using data obtained from a survey of business house rental income taxpayers in the Afar region, we have analyzed the association between compliance behavior and different explanatory variables, such as tax knowledge, penalty rate, probability of detection of evasion, peer influence (referent group), tax rate, perception of government spending, organizational strength of the tax authority, fairness of the tax system, and simplicity of the tax system. The results of ordered logit regression revealed a statistically significant correlation between compliance attitude and most of the factors considered in the analysis.

Hypothesis *H9* predicted that there is a positive significant relationship between tax knowledge and tax compliance. The findings of ordered logit regression indicate a positive and significant association between tax knowledge and tax compliance. Hence, *H9* is confirmed. This revealed that increased taxpayer awareness and understanding might enhance tax compliance, and diminish the desire to evade the law. This finding is concurrent with the findings of Biru [39], Machgu & Amayi [40], Adimassu & Jerene [18], Manchilot [22], and Assfaw & Sebbat [19].

Hypothesis *H3* is not confirmed, as the findings of this study indicated a statistically insignificant association between penalty rate and tax compliance.

Hypothesis *H6* predicted that there is a significant positive relationship between the probability of detection of evasion and tax compliance. The results of ordered logit regression show the existence of a positive and statistically significant correlation between the two. Thus, *H6* is confirmed. This implies that taxpayers comply with taxation for the reason that they fear may be caught by a tax audit. This is in line with the findings of Biru [39], Deyganto [9], Ahmed & Kedir [21], and Tilahun [22].

Hypothesis *H8* posited that the influence of the reference group has a negative and significant relationship with tax compliance. However, the results of this study indicate an insignificant association between the two. Thus, *H8* is not confirmed.

Hypothesis *H1* posited that there is a significant negative relationship between the tax rate imposed by rental income taxpayers and their compliance behavior. The results of the regression analyses undertaken indicate significant negative relationships between tax rate and tax compliance. Thus, *H1* is confirmed. Findings showed that a tax rate that is perceived as heavy, unfair, and inequitable they do not fulfill its tax obligation. This finding is in line with the findings Hai & See [41], Mas'ud et al. [42], Ottone et al. [17], and Tilahun [22].

Hypothesis *H2* predicted that there is a positive relationship between perceptions of taxpayers to government spending and tax compliance. The results of the study show that the perception of taxpayers toward government spending was found that it has a positive impact on tax compliance. Thus, *H2* is confirmed. This finding suggests that, if taxpayers perceived that the government is spending the national revenue wisely for basic facilities, such as education, health, safety, and public transportation, it is assumed that compliance status would be improved. This finding is in tandem with the finding of Ali et al. [43], Ahmed & Kedir [21], Adimassu & Jerene [18], and Assfaw & Sebhat [19].

Hypothesis *H4* is well confirmed, as the findings indicated that the organizational strength of tax authority had a significant positive relationship with tax compliance. This signifies that if the tax authority is effective in enhancing providing services, raising awareness, enforcing the law, and providing other information about taxes, taxpayers will desire to comply with the tax system. This result is similar to the findings of Mehari [44], and Tilahun [22].

Hypothesis *H7* is well confirmed, as the findings indicated that the fairness of the tax system was found that it has a positive significant association with tax compliance. The outcome also implies that, if taxpayers believe that their tax burden is equivalent to that of other taxpayers in their income group, they are more likely to comply with tax laws. Our findings agree with the results of previous research by Gberegbe & Umoren [45], Tehulu & Dinberu [8], Ahmed & Kedir [21], and Adimassu & Jerene [18].

Hypothesis *H5* posited that the simplicity of the tax system and tax compliance has a positive and statistically significant association. The results show that the simplicity of the tax system was found to have a positive significant impact on compliance behavior. Hence, *H5* is confirmed. This means that if the tax system is easy to comprehend for taxpayers, it will encourage them to obey the tax law. These results are consistent with the findings of other empirical studies such as Stephen [46], Assfaw & Sebhat [19], and Tilahun [22]. On other hand, Jayawardane & Low [20] conclude complexity of the tax system upsurges the possibility of misreporting the tax burden.

6. Conclusions

This article aimed to examine the major determinants of business house rental income taxpayers' compliance with the tax system in the Afar region. Based on a survey conducted in the Afar region selected woredas, an attempt was made to examine the factors that determine tax compliance. The ordered logit regression result showed that tax compliance was positively affected

by tax knowledge, probability of detection, perception of government spending, organizational strength of tax authority, fairness of tax system, and simplicity of tax system and negatively influenced by the tax rate in a regional state of Afar.

The findings of this study revealed that if taxpayers know the basic concepts of taxation, the tax system is simple for taxpayers to understand, which in turn will enhance compliance.

The taxpayers who perceived government spends national revenue wisely on essential goods and services, their tax burden is fair and equitable to that of others in their income group, which will encourage them to obey the tax law. Besides, when a tax rate is considered as being severe, unfair, or unequal, it discourages them from complying with the tax law. When the tax authorities are capable of providing quality services, the chances of being caught for evasion are high, taxpayers will desire to conform to the law.

Based on our finding it is recommended that tax authorities and other responsible bodies emphasize tax education and awareness, including the purpose of tax

collection, how it is computed and what things it is invested, and the benefits of tax fees through tax education movement and mass media, and simplify filing tax returns and tax forms, and tax calculation.

The tax authority needs to be strong in the tax assessment and procedures of tax collection, awareness creation, enforcement of the tax law, and providing other information, increase the number or frequency of audits, primarily upon new and immature taxpayers, as this will surely teach them how to be compliant if authorities check their very first tax file.

The government must establish a dubious, accountable, and transparent institution, and it must tell the public how and why it invests taxpayer money, their tax liability should be based on their ability to pay, and should take into account the numbers of taxpayers' families, expenditures, and other factors.

Further, with the help of this finding, further study should be conducted by incorporating all rental income taxpayers at a national level by including other tax compliance determinant variables that were not incorporated in this study.

References

1. Samuel M., De Dieu R.J. The impact of taxpayers' financial statements audit on tax revenue growth. *International Journal of Business and Economic Development (IJBED)*. 2014;2(2):51–60.
2. Gurama Z.U., Mansor M. Tax administration problems and prospect: A case of Gombe state. *International Journal of Art and Commerce*. 2015;4(4):187–196.
3. Bird R.M., Martinez-Vazquez J., Torgler B. Tax effort in developing countries and high income countries: The impact of corruption, voice and accountability. *Economic Analysis and Policy*. 2008;38(1):55–71. [https://doi.org/10.1016/S0313-5926\(08\)50006-3](https://doi.org/10.1016/S0313-5926(08)50006-3)
4. Hindriks J., Peralta S., Weber S. Competing in taxes and investment under fiscal equalization. *Journal of Public Economics*. 2008;92(12):2392–2402. <https://doi.org/10.1016/j.jpubeco.2007.11.012>
5. Ahlerup P., Baskaran T., Bigsten A. Tax innovations and public revenues in Sub-Saharan Africa. *The Journal of Development Studies*. 2015;51(6):689–706. <https://doi.org/10.1080/00220388.2014.997223>
6. Engida T.G., Baisa G.A. Factors influencing taxpayers' compliance with the tax system: An empirical study in mekelle city, Ethiopia. *eJournal of Tax Research*. 2014;12(2):433–452.
7. McKerchar M., Evans C. Sustaining growth in developing economies through improved taxpayer compliance: Challenges for policy makers and revenue authorities. *eJournal of Tax Research*. 2009;7(2):171–201.
8. Tehulu T.A., Dinberu Y.D. Determinants of tax compliance behavior in Ethiopia: The case of Bahir Dar city taxpayers. *Journal of Economics and Sustainable Development*. 2014;5(15):268–280.
9. Deyganto K.O. Factors influencing taxpayers' voluntary compliance attitude with tax system: Evidence from Gedeo zone of Southern Ethiopia. *Universal Journal of Accounting and Finance*. 2018;6(3):92–107. <https://doi.org/10.13189/ujaf.2018.060302>

10. Vadde S., Gundarapu S. Factors that Influence Rental Tax Payers' compliance with Tax System: An Empirical Study of Mekelle City, Ethiopia. *Researchers World*. 2012;3(4):41.
11. Geremew D. Factors affecting rental income tax payers compliance with tax system: In case of Hawassa City Administration, Snnprs, Ethiopia. *Research Journal of Finance and Accounting*. 2017;8(7):35–43.
12. Roth J.A., Scholz J.T., Witte A.D. *Taxpayer Compliance: An Agenda for Research*. University of Pennsylvania Press, Philadelphia; 1989. <https://doi.org/10.9783/9781512806274>
13. Palil M.R., Mustapha A.F. Factors affecting tax compliance behaviour in self assessment system. *African Journal of Business Management*. 2011;5(33):12864–12872. <https://doi.org/10.5897/AJBM11.1742>
14. Loo E.C., Mc Kercher M., Hansford A. Findings on the impact of self assessment on the compliance behaviour of individual taxpayers in Malaysia: A case study approach. *Journal of Australian Taxation*. 2010;13:1–23.
15. Loo E.C. *The influence of the introduction of self assessment on compliance behaviour of individual taxpayers in Malaysia*. The University of Sydney. 2011.
16. Fischer S. The role of macroeconomic factors in growth. *Journal of Monetary Economics*. 1993;32(3):485–512. [https://doi.org/10.1016/0304-3932\(93\)90027-D](https://doi.org/10.1016/0304-3932(93)90027-D)
17. Ottone S., Ponzano F., Andrighetto G. Tax compliance under different institutional settings in Italy and Sweden: an experimental analysis. *Economia Politica*. 2018;35(2):367–402. <https://doi.org/10.1007/s40888-018-0093-7>
18. Adimassu N.A., Jerene W. Determinants of voluntary tax compliance behavior in self assessment system: Evidence from SNNPRS, Ethiopia. *International Journal of Science and Research*. 2016;5(12):967–973.
19. Assfaw A.M., Sebat W. Analysis of tax compliance and its determinants: evidence from Kaffa, Bench Maji and Sheka zones category B tax payers, SNNPR, Ethiopia. *Journal of Accounting, Finance and Auditing Studies*. 2019;5(1):32–58. <https://doi.org/10.32602/jafas.2019.2>
20. Jayawardane D., Low K. Taxpayer attitude and tax compliance decision in Sri Lanka. *International Journal of Arts and Commerce*. 2016;5(2):124–135.
21. Ahmed A., Kedir S. Tax compliance and its determinant the case of Jimma zone, Ethiopia. *International Journal of Research in Social Sciences*. 2015;6(2):7–21.
22. Tilahun M. Determinants of Tax Compliance: A Case of Gondar City, Ethiopia. *Research Journal of Finance and Accounting*. 2018;9(13):38–45.
23. Daniel M., Shaik A. Factors affecting voluntary compliance of category “C” tax payers' attitude of Arbaminch, SNNR, and Ethiopia. *International Journal of Scientific and Research Publications*. 2015;7(6):48–63.
24. Richardson G. The relationship between culture and tax evasion across countries: Additional evidence and extensions. *Journal of International Accounting, Auditing and Taxation*. 2008;17(2):67–78. <https://doi.org/10.1016/j.intaccaudtax.2008.07.002>
25. Mebratu A.A. Impact of tax audit on improving taxpayers compliance: empirical evidence from Ethiopian revenue authority at federal level. *International Journal of Accounting Research*. 2016;2(12):1–19. <https://doi.org/10.12816/0033279>
26. Admasu F., Shallo L. Determinants of Tax Compliance in Ethiopia: Case Study in Revenue and Customs Authority, Hawassa Branch. *Research Journal of Finance and Accounting*. 2018;9(21):95–104.
27. Torgler B. *Tax compliance and tax morale: A theoretical and empirical analysis*. Edward Elgar Publishing; 2007.
28. Kirchler E., Hoelzl E., Wahl I. Enforced versus voluntary tax compliance: The “slippery slope” framework. *Journal of Economic Psychology*. 2008;29(2):210–225. <https://doi.org/10.1016/j.joep.2007.05.004>
29. Allingham M.G., Sandmo A. Income tax evasion: A theoretical analysis. *Journal of Public Economics*. 1972;1(3–4):323–338. [https://doi.org/10.1016/0047-2727\(72\)90010-2](https://doi.org/10.1016/0047-2727(72)90010-2)
30. Torgler B. *Tax morale and compliance: review of evidence and case studies for Europe*. World Bank Policy Research Working Paper, No. 5922; 2011. <https://doi.org/10.1596/1813-9450-5922>
31. Inasius F. Factors influencing SME tax compliance: Evidence from Indonesia. *International Journal of Public Administration*. 2019;42(5):367–379. <https://doi.org/10.1080/01900692.2018.1464578>

32. Barrand P., Ross S.G., Harrison G. *Integrating a unified revenue administration for tax and social contribution collections: experiences of central and eastern European countries*. IMF Working Paper. No. WP/04/237. 2004. <https://doi.org/0.5089/9781451875744.001>
33. Machogu C., Amayi J.D. The Effect of Taxpayer Education on Voluntary Tax Compliance, Among Smesin Mwanza City-Tanzania. *International Journal of Marketing, Financial Services and Management Research*. 2013;2(8):12–23.
34. Nzioki P.M., Peter O.R. Analysis of Factors Affecting Tax Compliance in Real Estate Sector: A Case of Real Estate Owners in Nakuru Town, Kenya. *Research Journal of Finance and Accounting*. 2014;5(11):1–12.
35. Palil M.R. *Tax knowledge and tax compliance determinants in self assessment system in Malaysia*. PhD Thesis. University of Birmingham; 2010. Available at: <https://core.ac.uk/download/pdf/76107.pdf>
36. Ababa A. *Federal Democratic Republic of Ethiopia central statistical agency population projection of Ethiopia for all regions at Wereda level from 2014–2017*. Addis Ababa: Central Statistical Agency; 2014.
37. Yamane T. *Statistics: An introductory analysis*. Harper & Row; 1967.
38. Hair J.F., Black W.C., Babin B.J., Anderson R.E. *Multivariate data analysis: A global perspective*. New York; London: Pearson Education; 2010.
39. Biru A.M. Factors That Affect Tax Compliance Behavior of Small and Medium Enterprises: Evidence from Nekemte City. *European Journal of Business and Management*. 2020;12(19):29–41. <https://doi.org/10.7176/EJBM/12-19-04>
40. Machgu C.G., Amayi J.B. The Effect of Taxpayer Education on Voluntary Tax Compliance, Among Smesin Mwanza City-Tanzania. *International Journal of Marketing, Financial Services & Management Research*. 2013;2(8):12–23.
41. Hai O.T., See L.M. Intention of tax non-compliance-examine the gaps. *International Journal of Business and Social Science*. 2011;2(7):79–83.
42. Mas’ud A., Aliyu A.A., Gambo E.-M.J. Tax rate and tax compliance in Africa. *European Journal of Accounting Auditing and Finance Research*. 2014;2(3):22–30.
43. Ali M., Fjeldstad O.-H., Sjørusen I.H. *Factors affecting tax compliant attitude in Africa: evidence from Kenya, Tanzania, Uganda and South Africa*. In: Centre for the Study of African Economies 2013 Conference, Oxford University; 2013.
44. Mehari D., Majeed Pasha S.A. Factors Affecting Voluntary Compliance of Category “C” Taxpayers’ Attitude of Arbaminch, SNNPR, Ethiopia. *International Journal of Scientific and Research Publications*. 2017;7(6):48–63.
45. Gberege F.B., Umoren A.O. The perception of tax fairness and personal income tax compliance of SMEs in Rivers State. *Journal of Research in Business and Management*. 2017;5(2):40–51.
46. Stephen A. *Determinants of tax compliance: A case study of vat flat rate scheme traders in the Accra metropolis*. PhD Thesis. Kwame Nkrumah University-Ghana; 2011.

Information about the authors

Abibual Getachew Nigatu - MSc in Accounting and Finance, Lecturer, Department of Accounting and Finance, Samara University (RX2R+W7F, Semera, Ethiopia, P.O. Box 132); ORCID: <https://orcid.org/0000-0002-3857-0936>, e-mail: abibual8@gamil.com

Atinkugn Assefa Belete - MSc in Development Policy Analysis, Lecturer, Department of Economics, Samara University (RX2R+W7F, Semera, Ethiopia, P.O. Box 132); ORCID: <https://orcid.org/0000-0002-1328-6904>, e-mail: atinkugn20@gamil.com

For citation

Nigatu A.G., Belete A.A. Determinants of Business House Rental Income Taxpayers’ Compliance with Tax System in Afar Region, Northeast Ethiopia. *Journal of Tax Reform*. 2022;8(3):270–284. <https://doi.org/10.15826/jtr.2022.8.3.121>

Article info

Received February 12, 2022; Revised July 9, 2022; Accepted September 1, 2022

Информация об авторах

Нигату Абибуаль Гетачью – магистр бухгалтерского учета и финансов, преподаватель кафедры бухгалтерского учета и финансов Самарского университета (RX2R+W7F, Семера, Эфиопия, а/я 132); ORCID: <https://orcid.org/0000-0002-3857-0936>, e-mail: abibual8@gamil.com

Белете Атинкугн Ассефа – магистр бухгалтерского учета и финансов, преподаватель кафедры бухгалтерского учета и финансов Самарского университета (RX2R+W7F, Семера, Эфиопия, а/я 132); ORCID: <https://orcid.org/0000-0002-1328-6904>, e-mail: atinkugn20@gamil.com

Для цитирования

Nigatu A.G., Belete A.A. Determinants of Business House Rental Income Taxpayers' Compliance with Tax System in Afar Region, Northeast Ethiopia. *Journal of Tax Reform.* 2022;8(3):270–284. <https://doi.org/10.15826/jtr.2022.8.3.121>

Информация о статье

Дата поступления 12 февраля 2022 г.; дата поступления после рецензирования 9 июля 2022 г.; дата принятия к печати 1 сентября 2022 г.