

Determinants of Tax Compliance Behavior in Ethiopia: Evidence from South Gondar Zone

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Abstract

This study is conducted with the main objective of analyzing the empirical relationship between tax compliance behaviour and its determinants in South Gondar Zone of the Amhara region. The study is conducted by using primary data collected from category “A” and “B” tax payers. The primary data is collected using structured questionnaire from 11 districts in the zone. The response obtained from 295 respondents (87.3% response rate) is used for the analysis. Both descriptive and econometrics approach is applied to analyze the data. In order to determine the empirical relationship between tax compliance behavior and its determinant, binary logit model is estimated. The study found that audit rate, attitude of tax payers, perception on equity of the tax system and benefit from the government as well as education are found to have statistically significant positive impact on the tax compliance behavior of category” A” and “B” tax payers in South Goder Zone. On the contrary, tax rate, audit probability, social norm, compliance cost and sex are identified as statistically significant negative determinants of tax compliance behavior in the study area. But, Penalty rate, Perception of government Spending, training to enhance tax knowledge and age of the respondent are found to have statistically insignificant effects on compliance behavior of category “A” and “B” tax payers in South Gondar zone. Finally, the study has forwarded suggestions to further strengthen audit rates, tax equity, tax education, and build the capacity of tax auditors. Moreover, the tax authority should work hard to reduce compliance costs and improve the attitudes of tax payers.

Keywords: Determinant, Logit model, Tax Compliance

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1. Introduction

Tax compliance is defined as the accurate reporting of income and claiming of expenses in accordance with the stipulated tax laws (Noor and Jeyapalan, 2013). According to Palil and Mustapha (2011) tax compliance can also be defined as taxpayers’ ability and willingness to comply with tax laws which are determined by ethics, legal environment and other situational factors at a particular time and place. Similarly, tax compliance is also defined as the ability and willingness of taxpayers to comply with tax laws, declare the correct income and pays the right amount of taxes on time. Palil and Mustapha (2011) stated that tax compliance requires a degree of honesty, adequate tax knowledge and capability to use this knowledge, accuracy and adequate records in order to complete the tax returns and associated tax documentation.

Hence, the goal of tax administration is to develop voluntary tax compliance, although tax noncompliance is an issue aggravates both developed and developing countries and becomes a growing global problem (McKerchar and Evans, 2009). Moreover, many of the available literature indications suggested that developing countries, particularly Sub-Saharan Africa countries are the hardest hit. Tax non-compliance is a problem that affects tax administration and tax revenue performance. In Ethiopia, the total tax revenue as a percentage of GDP has continued to decline and has accounted for 12.5 percent in 2014/15 to 12.5 percent in 2015/16 and 11.8 percent in 2016/17 (International monetary fund,2018). This is an indication of non compliant of tax. Reducing the loss of revenues resulting from non-compliance with tax laws is critical to achieve fiscal objectives. Therefore, identifying the sources of noncompliance is critical to designing and implementing an effective and targeted remediation for the country.

Empirical studies on the factors that affect tax compliance in Ethiopia are very scanty. To the best of the researchers’ Knowledge Tehulu & Dinberu (2014), Tesafa *et al* (2015), and Ahmed & Kedir (2015) have made an effort to identify the most important factors of tax compliance. However, no research have addressed in South Gondar Zone that this research was try to address. Moreover, other studies except Tesafa *et al* (2015) did not employ any econometric model that is appropriate for such a study. In this study effort was made to apply an appropriate discrete choice econometric model (logit model) to identify the major economic and non-economic factors of tax compliance in south Gondar zone. Besides, results of previous researches on the topic indicated that for most of the variables that used in this study results are inconclusive. The main objectives of this study were:

1. To investigate the economic determinants of tax compliance behavior of business profit taxpayers.
2. To examine the non-economic determinants of tax compliance behavior of business profit taxpayers.

2. Literature Review

Theoretically, there are a number of factors for the compliance and/or non-compliance behavior of tax payers. Broadly, the determinants can be divided in to two: economic and non-economic factors. In the following section the relationship economic and non-economic factors have with tax compliance behavior are discussed under the five categories of theories which are found to be important for the model formulation.

a) Economic deterrence

According to Allingham and Sandmo (1972), the tax rate which determines the benefit of evasion and the probability of detection and penalties for fraud which determine the costs are factors that could influence the behavior of tax payers. This literature has been postulated that the relationship between tax rates and tax compliance is directly proportional, that is an increase in the tax rates always leads to an increase in tax compliance (Allingham and Sandmo, 1972). On the other hand, several research findings (Chau and Leung, 2009; Alm et al., 1995; Feinstein, 1991, and Mas'ud, Aliyu, and Gambo, 2014) have revealed a negative relationship between tax rates and tax compliance. More evidence revealed a high tax rate to be positively related to tax evasion as well as negatively related to tax compliance (Ali, Cecil, & Knoblett, 2001; Christian & Gupta, 1993).

The other implication of this theory is that few people will evade tax if the probability of detection is high and penalties are severe. However, the expected return to evasion is high if the probability of audit is low and penalties are also low. Under such situations, substantial noncompliance will occur. The relevance of deterrence strategies to address noncompliance behavior has been confirmed by research outputs (McKerchar and Evans 2009). Fear of getting caught, or the probability of detection, has been found in some contexts to be an effective strategy to induce truthful behavior. Hence, economic deterrence theory is one of the widely accepted theories in tax administrations when developing enforcement strategies that rely principally on penalties and the fear of getting caught. However, a critic on the theory has also been forwarded on its exclusive emphasis on the coercive side of compliance at the expense of the consensual (Sandmo, 2005).

b) Fiscal exchange

This theory asserts that a government which could provide public goods which citizens prefer in an efficient and accessible manner would motivate tax payers to comply their tax (Cowell and Gordon 1988; Levi 1988; Tilly 1992). According to Alm *et al.* (1992) tax compliance would increase with an increased perception of the availability to public goods and services. The implication of this theory is that tax payers are highly concerned about the direct return they could derive from public services as a result of paying tax. Moore (2004) also explained that in terms of taxation and the provision of public goods and services, taxpayers and the government do have a contractual relationship. Hence, a tax payer is convinced as he/she is benefiting from the supply of goods by the government means the individual may pay more taxes recognizing that their payments are necessary both to help finance the goods and services and to get others to contribute.

One problem with this theory is that most taxpayers cannot assess the exact value of what they receive from the government in return for taxes paid. However, it can be argued that they have general impressions and attitudes concerning their own and others' terms of trade with the government (Richupan, 1987). Thus, assuming taxpayer's behavior is affected by his/her satisfaction or lack of satisfaction from the exchange is reasonable. Tax evasion may, at least partly, a rise as an attempt to adjust their terms of trade with the government if tax payers perceive the tax system is unjust. Although this theory has a well established theoretical base, empirical evidences conducted so far to support the theory do have ambiguous nature (D'Arcy, 2011).

c) Social influences

According to Snavely (1990), like any other forms of behavior, it is reasonable to assume human behavior in the area of taxation is much influenced by social interactions. The central idea of this model is that compliance behavior and attitudes towards the tax system is thought to be affected by the behavior and social norms of an individual's reference group. In other words, the behavior of an individual's reference group such as relatives, neighbors and friends do have a greater effect on compliance/non-compliance behavior and attitudes towards the tax system. The social influence theory tells that if a taxpayer knows many people in groups important to him who evades taxes, the individual's commitment to comply will significantly decrease. On the other hand, if a tax payer develops fear of social sanctions following detection and publicity it will deter the individual from engaging in evasion.

The effect of social influence on the compliance behavior of tax payers was also confirmed by different theoretical researches. Banerjee (1992) in his theoretical research on group behavior in economic situations have indicated that social influences may affect compliance, in particular by affecting the perceived probability of detection. According to Yankelovich *et al.* (1984), one of the most consistent findings about taxpayer attitudes and behavior in Western countries is that those who report compliance believe that their peers and friends (and taxpayers in general) comply, whereas those who report cheating believe that others cheat. Evidence suggests that perceptions about the honesty of others may affect compliance behavior.

d) Comparative treatment

This theory indicated that the tax payers' perception on equity has effect on their compliance behavior. According

to McKerchar and Evans (2009), addressing inequities in the exchange relationship between government and taxpayers would result in improved compliance. Citizens may not consider their relationship with the state in a vacuum where both parties are the only actors. Likewise, they may not think about their fellow citizens without considering their own relationship with the state. They may also consider how the state treats them relative to their fellow citizens. This judgment is likely to affect not only their judgment of the state, but also how they view their fellow citizens (D'Arcy, 2011). If the state treats certain groups preferentially, this may color the citizen's relationship with the state and the group receiving favors. A crucial variable is then not just what a person gets from the state, but what the person gets from the state (and how the state treats the person) relative to those who are in the person's wider national community. This social psychology model highlights the importance of equity theory in the study of compliance and taxpayer behavior.

e) Political legitimacy

Taylor (2006) and Kirchler et al (2008) have explained the political legitimacy theory and its effect on tax compliance. According to them tax compliance is influenced by the extent that citizens trust their government. Citizens' belief or trust on the authorities, institutions, and social arrangements to be appropriate, proper, just and work for the common good refers the legitimacy of that political situation. Political scientists have addressed how political legitimacy and civic identification are fostered. A study conducted by Persson(2008) showed that the more successful African countries upon independence are those which build national over ethnic identity than those which allowed ethnicity to become the main animus of politics.

f) Audit Rates

According to Nicoleta (2011), tax audit is one of the most effective policies to protect the behavior of tax evasion. In Self Assessment System, one of the legally provided powers for the tax authority is to review the tax declaration filed by the taxpayer within a specific period of time. Tax education is among the objectives pursued by tax audit, whereby the tax administration shows to the taxpayer the articles of the law violated leading to re-assessment of additional tax. In its report, the tax administration advises the taxpayer on the way forward to avoid future mistakes in his books of accounts. It is against this background that Kirchler (2007) confirmed that high audit rates had a significant impact on compliance rates. Despite the existence of studies which have confirmed the positive correlation between compliance and tax audit rate, Mohd (2010) on the other hand revealed that tax audit rate was not significant to influence the compliance behavior.

g) Compliance Costs

Compliance cost is expenditure of money in conforming to government requirements such as legislation or regulation. Compliance costs normally include all costs associated with obeying the law, including planning and administration, in addition to the direct time and money spent filing paperwork. Sandford (1981), an excessive compliance costs would make taxpayers to choose evading tax in order to compensate the cost they could incur.

h) Attitudes towards taxes

Attitude represents the positive or negative evaluation that an individual holds of objects (Nicoletta, 2011). Taxpayers with positive attitude towards tax evasion will tend to be less compliant, whereas taxpayers with negative attitude towards tax evasion will be more compliant.

3. Research Design and Methodology

3.1 Research Design

This study applied diagnostic research design approach, aiming to investigate the relationship among variables (Adams et.al, 2007). Information is collected from respondents on different variables (economic and non-economic) and logit model is applied to establish statistical relationship between the dependent and independent variables.

3.2 Study Area, Population and Sampling Procedure

The study is conducted in south Gonder Zone. South Gonder Zone is found in Amhara Regional state, Ethiopia which is 625.04km away from Addis Ababa, the capital city of Ethiopia. In this Zone there are 11 districts: Farta, Fogera, Estie, Simada, Tachgaint, Laygaint, Dera, Debre Tabor, Libokemkem, Ebnat, Andabet and 4 Town Administrations: Nefasmewuch, Addis zemen, woreta and Mekane Eyesus.

The population of this study is 2171 registered category A and B taxpayers found in the 11 districts and 4 town administrations of South Gonder Zone. This study used stratified random sampling technique. 11 strata are formed by merging the 4 town administrations to the nearby districts(i.e, Nefas Mewcha with Lay Gayent, Addis Zemene with Libo kemekem, Woreta with Fogera and Mekane Eyesus with Estie) and random sampling technique is applied to select respondents from each strata. Finally, the sample required from each stratum is determined through simple probability proportionate to size approach.

$$n_i = \frac{n * N_i}{N}$$

i.e.;

Where; n_i = proportionate sample size for the i^{th} district under each category, n = determined sample size, N_i =

portion of the population in the i^{th} district for each category and N = total population for each category.

The samples required from each district in proportion to the total population are determined as follows.

District	Total Category A Tax payers	Proportionate Share	Total Category B Tax payers	Proportionate Share
Farta	26	4	94	15
D/Tabor	266	41	268	42
Simada	58	9	61	9
Fogera	87	14	278	43
Libokemekem	62	10	146	23
Estie	63	10	243	38
Tach Gayent	35	5	17	3
Ebenat	53	8	30	4
Lay Gayenet	103	16	109	17
Andabet	13	2	49	8
Dera	13	2	97	15
Total	779	121	1392	217

Source: South Gonder Zone Revenue Office Base Line Data, 2017

3.3 Sample Size Determination

The sample size is determined using the formula developed by Yamane (1967) obtained from Adams et.al (2007). The formula is:

$$n = \frac{N}{1 + Ne^2}$$

Where; n = sample size N = Total population e = Error tolerance.

By taking the 5% margin of error, the sample size is calculated as below:

$$n = \frac{2171}{1 + 2171(0.05)^2} = \underline{\underline{338}}$$

3.4 Instrument

This study used primary data using structured questionnaire to collect all the required information related to tax compliance and its determinants from category A and B registered taxpayers. In the questionnaire an indirectly phrased questions are used to capture tax compliance behavior of individuals so as to avoid direct implication of “wrong doing” by the respondent.

3.5 Model specification

In order to examine the factors that affect the probability of being compliant, a binary logit model is estimated.

The probability of being compliant is defined as:

$$P_i = E(\text{Taxcomp}_i = 1 / X_i, Y_i) = \alpha_1 + \alpha_2 X_i + \alpha_3 Y_i$$

Where;

- P_i represents the probability of the i^{th} taxpayer being compliant. Because TAXCOMP is a dummy variable, a value of 1 will be given if the i^{th} taxpayer has complaint attitude and a value of 0 for non-compliant attitude.
- X_i is a vector for individual level characteristics that affect tax compliance behavior which includes age, sex and education.
- Y_i is a vector for economic and non-economic factors that affect tax compliance behavior.
- α_i 's are the respective coefficients.

The study finally estimated the following logit model:

$$\ln\left(\frac{P_i}{1 - P_i}\right) = \alpha_1 + \alpha_2 X_i + \alpha_3 Y_i$$

$$\ln\left(\frac{P_i}{1-P_i}\right)$$

Where $\ln\left(\frac{P_i}{1-P_i}\right)$ is the natural log of the odds in favor of compliant behavior and α_2 and α_3 are the measure of change in the log of the odds ratio.

Variable Name, description and Measurement

Variable Name	Description	Measurement
Dependent Variable		
Comp	Tax compliance behavior tax payer	Comp=1 if the i^{th} tax payer exhibits compliance behavior and 0 otherwise
Independent Variables		
Sex	Sex of the tax payer	Sex=1 if the respondent is male and 0 otherwise
adur	audit rate	adur=1 if not being audited for successive years pushed the person to non-compliance and 0 otherwise
aup	audit probability	aup=1 if high probability of non-detection in tax auditing lead him to non-compliance behavior and 0 otherwise
Pen	Penalty rate	Pen=1 if high penalty rate make him/her tax compliant and 0 otherwise
Pgov	Perception towards the use of tax by government officials	Pgov=1 if the i^{th} tax payer reported negative perception towards the use of the tax by officials lead him/her non-compliant
attu	Tax payer attitude for paying tax	attu=1 if the i^{th} tax payer don't feel guilty when he/she under report his/her real income and 0 otherwise
equ	Equitability(fairness) of tax	Equ=1 if the i^{th} tax payer reported unfair distribution tax makes him/her non-compliant and 0 otherwise
eftr	Effect of training on tax compliance behavior	eftr=1 if the i^{th} tax payer reported training provided by the authority help him/her to be compliant and 0 otherwise
Snor	Social norm	Snor=1 if the i^{th} tax payer reported non-compliance behavior of others lead him/her to be non-compliant and 0 otherwise
Comc	Compliance cost	Comc=1 if the i^{th} tax payer reported high cost incurred to pay tax make him/her non-compliant and 0 otherwise
rtr	relative tax amount	rtr=1 if the i^{th} tax payer reported the tax imposed on him/her is high and 0 otherwise
tr	tax rate	tr=1 if the i^{th} tax payer reported high tax rate lead to non-compliance behavior and 0 otherwise
edu1	Education1	edu1=1 if the i^{th} tax payer is primary school complete and 0 otherwise
edu2	Education2	edu2=1 if the i^{th} tax payer is Secondary school complete and 0 otherwise
edu3	Education3	edu3=1 if the i^{th} tax payer is college complete and 0 otherwise
age1	Age group1	age1=1 if the i^{th} tax payer is in the age group between 31-45 and 0 otherwise
age2	Age group2	age2=1 if the i^{th} tax payer is in the age group between 46-65 and 0 otherwise
age3	Age group3	age3=1 if the i^{th} tax payer is in the age group above 65 and 0 otherwise

4. Data Analysis

Data collection is conducted by using 11(eleven) trained enumerators selected from 11(eleven) districts. Structured questionnaire is used after translation is made into the local language, Amharic. A total of 338 questionnaires were distributed for category A and B tax payers and 295 of them are returned with valid responses. Thus, the response rate is approximately 87.3% and analysis of the study is conducted by using data obtained from the 295 respondents.

4.1 Descriptive Analysis

	Number of Respondents	Percentage
Male	266	90.17
Female	29	9.83
Total	295	100

Table 4.1: Gender of the study participants

Source: Own computation from filed survey data,2010

Table 4.1 shows over 90% of the sampled respondents are male. Thus, female respondents constitute less than 10% of our sampled respondents. This evidence imply participation of females in category “A” and “B” tax payers is very less and the category is largely represented by male tax payers. As theory supports more tax compliance behavior to female tax payers, the share of tax payers with compliance behavior is expected to be less.

	Number of Respondents	Percentage
Without formal education	18	6.10
Primary complete	72	24.41
Secondary complete	150	50.85
College and above	55	18.64
Total	295	100

Table 4.2: Level of education

Source: Own computation from filed survey data,2010

Table 4.2 indicates secondary level completed tax payers took the lion share of the respondents followed by primary level completes. Category “A”and”B” tax payers without formal education represents the lowest share of the respondents approximately 6% followed by respondents with college and above education level with a share of around 18.6%.

	Number of Respondents	Percentage
Age between 18-30	8	2.71
Age between 31-45	113	38.31
Age between 46-64	158	53.56
Age greater than or equal to 65	16	5.42
Total	295	100

Table 4.3. Age profile of respondents

Source: Own computation based on filed survey data,2010

As presented in table 4.3 over 53% of the respondents are in the age category between 46-64 and less than 3% of the respondents are between 18-30 implying substantially large share of the respondents is represented by senior group of the labor force (between 46-64) followed by the adult group with a share of around 38%. The youth represent the lowest share

4.2 Econometric Analysis

Following theoretical and empirical literatures as a benchmark, the study tried to investigate the role of demographic, economic, social and political factors in determining tax compliance behavior in the study area. The research chose binary logit model due to the binary nature of the dependent variable. Finally, the logit model result is presented in the following table.

Comp	Coef.	Std. Err.	Z	P>z	[95%Conf. Interval]		Odds Ratio
Tr	-1.240931	.603029	-2.06	0.040**	-2.422846	-.0590158	.2891149
Adur	1.94685	.7369421	2.64	0.008***	.5024701	3.39123	7.006582
Aup	-3.06838	.6260376	-4.90	0.000***	-4.295391	-1.841369	.0464964
Pen	.8525905	.6746247	1.26	0.206	-.4696495	2.174831	2.345716
Pgov	.7136981	.5354136	1.33	0.183	-.3356932	1.763089	2.041527
Attu	1.269193	.5493245	2.31	0.021**	.1925367	2.345849	3.55798
Equ	1.668532	.9317251	1.79	0.073*	-.1576158	3.494679	5.304374
Eftr	.150674	.6228819	0.24	0.809	-1.070152	1.3715	1.162618
Snor	-1.166701	.6093473	-1.91	0.056*	-2.361	.0275974	.3113925
Comc	-3.636403	.6811521	-5.34	0.000***	-4.971437	-2.30137	.0263469
Sex	-2.719091	.8658962	-3.14	0.002***	-4.416217	-1.021966	.0659346
edu1	1.441812	1.512453	0.95	0.340	-1.522541	4.406164	4.228349
edu2	2.685473	.822481	3.27	0.001***	1.07344	4.297506	14.66513
ed3	2.016783	.8880482	2.27	0.023**	.2762406	3.757326	7.514114
age1	2.585399	1.408425	1.84	0.366	-.1750637	5.345861	13.26858
age2	.6429345	.5936865	1.08	0.279	-.5206697	1.806539	1.902054
age3	.4219189	.8551337	0.49	0.622	-1.254112	2.09795	1.524885
cons	-1.712476	1.556138	-1.10	0.271	-4.76245	1.337498	.1804185

Number of obs = 295 *** Statistically significant at 1% level of Sig.
 Log likelihood = -55.475872 ** Statistically significant at 5% level of Sig.
 LR chi2 (17) = 214.65 * Statistically significant at 10% level of Sig.
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.6592

Table 4.5. Coefficient Value, significance level and odds ratio result of the binary Logit model

In the first step model fitness test is checked. The Likelihood ratio (LR) value in table 4.5 indicates the fitness of the specified logit model. The LR value, LR chi2 (17) =214.65[Prob > chi2 =0.0000], is a statistical evidence for the presence of good relationship between the dependant variable and combination of independent variables. The null hypothesis which states there is no difference between the model without independent variables and the model with independent variables is rejected. It, thus, show the binary logit model result with the considered independent variables can be used for further interpretation.

Based on the estimated result audit rate, audit probability, compliance cost, tax rate, attitude, equity and social norm are found statistically significant factors for tax compliance behavior. Regarding demographic factors, being female or male as well as being found in secondary and college level of education significantly determines the probability of compliance behavior. The remaining factors: Penalty rate, perception towards government spending, trainings to enhance tax knowledge and age are found to have statistically insignificant effects on the compliance behavior of category “A” and “B” tax payers in the study area.

Marginal effects after logit

$$y = \text{Pr}(\text{comp}) \text{ (predict)}$$

$$== .02933093$$

Variable	dy/dx	Std. Err.	Z	P>z	[95% C.I.]	X
Tr*	-.0440794	.03019	-1.46	0.144	-.103248 .015089	.647458
adur*	.0382425	.01883	2.03	0.042	.001331 .075154	.772881
aup*	-.1565116	.05824	-2.69	0.007	-.270652 -.042372	.613559
pen*	.0224755	.01819	1.24	0.217	-.013181 .058132	.627119
pgov*	.0235981	.02297	1.03	0.304	-.021419 .068615	.301695
attu*	.0451793	.02782	1.62	0.104	-.009345 .099703	.355932
equ*	.0289397	.01515	1.91	0.056	-.000746 .058625	.874576
eftr*	.0045183	.01976	0.23	0.819	-.034206 .043243	.138983
snor*	-.0421507	.02786	-1.51	0.130	-.096746 .012444	.677966
comc*	-.2309527	.07213	-3.20	0.001	-.37232 -.089586	.644068
sex*	-.2370887	.1419	-1.67	0.095	-.515213 .041035	.901695
edu1*	.0778246	.13454	0.58	0.563	-.185877 .341526	.061017
edu2*	.0939648	.04436	2.12	0.034	.007024 .180906	.508475
ed3*	.1145444	.08467	1.35	0.176	-.051414 .280503	.186441
age1*	.2387197	.25565	0.93	0.350	-.262339 .739778	.040678
age2*	.0183212	.01848	0.99	0.321	-.017895 .054538	.522034
age3	.0120123	.02439	0.49	0.622	-.035783 .059807	.064407
tr*	-.0440794	.03019	-1.46	0.144	-.103248 .015089	.647458

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Table 4.6: Marginal effect result

4.2.1 Discussion of Results

- Tax rate (Tr):** As shown in table 4.5, tax rate is found to have statistically significant negative effect on the compliance behavior of Category “A”and”B” tax payers in South Gondar zone of the Amhara region. The average negative relationship shows the probability that category “A”and”B” tax payers decrease compliance behavior with high tax rate. Thus, high tax rate is one of the factors reducing tax compliance behavior in districts of South Gondar Zone. The result is consistent with previous findings of Chau and Leung (2009);Alm et al. (1995); Aliyu and Gambo (2014). The odds ratio also implies category “A”and”B” tax payers are, on average, 0.28 times less likely to be tax compliant for the shift from lower tax rate to relatively higher tax rate. The marginal effect presented in table 4.6 show tax compliance behavior decreases by approximately 4% for the shift from lower tax rate to higher tax rate category.
- Audit rate (adur):** uninterrupted auditing is observed to have positive contribution(at 5% and 1% level of significance) on tax compliance behavior of category “A”and”B” tax payers in the study area. The result is consistent with the theory and most of the findings. The odds ratio show successive auditing would make the tax payer approximately 7 times more likely to have compliance behavior than compliance in the absence of successive auditing. As table 4.6 also show the shift from less audit rate to uninterrupted auditing increases the probability of compliance behavior by around 3.8%.
- Audit probability (aup):** Table 4.5 also shows the probability of non-detection in tax auditing has negative relationship (at 5% and 1% level of significance) with compliance behavior. The result implies an increase in the probability of non-detection in tax auditing leads to a decrease in the compliance behavior of category “A”and”B” tax payers. The odds ratio result indicates that tax payer with non- detection experience in tax auditing is 0.04 times less likely to have compliance behavior. The marginal effect result also confers the same idea. The shift of a tax payer idea from successful detection into non-detection in tax auditing reduces the compliance probability of category “A”and”B” tax payers by around 15.6%.
- Attitude (attu):** Attitude is also found as the other statistically significant factor(at both 1% and 5% level of significance) positively influencing the tax compliance behavior of category “A”and”B” tax payers in South Gondar zone. A tax payer feeling guilty in violation of the tax law is 3.5 times more likely to exhibit compliance behavior than the tax payer that doesn’t feel guilty if he/she violates the tax law. As presented in table 4.6, the marginal effect of the shift from negative attitude to pay tax to positive attitude is 4% improvement to the tax compliance behavior.
- Perception of equity of the tax system (equ):** tax payer perception about the tax and benefit distribution is found to have positive relationship with tax compliance behavior, but only at 10% level of significance. As table 4.5 show a tax payer with perception of equity on the tax system is 5.3 times more likely in favor of compliance behavior than the tax payer with the perception of inequity. The marginal effect measurement also shows the shift from perception of inequitable tax and benefit distribution to perception of equity would

- improve compliance behavior by around 3%.
- f) **Social norm(Snor):** The tax compliance behavior of friends, relatives and neighbors do have statistically significant(at 10% level of significance) negative effect on the compliance behavior of category “A”and”B” tax payers in South Gondar zone. A tax payer with non-compliant reference is 0.3 times less likely to exhibit compliance behavior than those having compliance reference. The marginal effect result also show the shift from a reference group with compliance behavior to non- compliance reference group would decrease the compliance behavior of category “A”and”B” tax payer by an average of 4%.
- g) **Compliance cost(Comc):** Higher compliance cost is found to have statistically significant negative effect on the compliance behavior of category “A”and”B” tax payers in South Gondar zone. The odds ratio imply the shift from low compliance cost to higher compliance cost leads to approximately 0.02 times less likely to exhibit compliance behavior than tax payers with lower compliance cost. On the other hand, the marginal effect results again indicate the shift from low compliance cost to higher compliance cost could decrease the compliance behavior of the tax payer by approximately 23%.
- h) **Sex:** Sex of the tax payer is also found as an important determinant of compliance behavior. Being male is found to have an average significant negative effect on the compliance behavior of category “A”and”B” tax payers in South Gondar zone. As indicated in the odds ratio result in table 4.5, being male tax payer is 0.06 times less likely to have compliance behavior than female tax payer. The marginal effect result also shows the shift from female tax payer to male tax payer would decrease compliance behavior of the tax payer by an average of 23.7%.
- i) **Education:** level of education is found the other important significant determinant of tax compliance behavior of category “A”and”B” tax payers in South Gondar zone. Although tax payers without formal education don’t have statistically significant difference in terms of compliance behavior relative to primary level completes, being in the secondary level of education as well as college and above completed do have statistically significant positive difference on the compliance behavior relative to primary level completed. The odds ratio result again indicate category “A” and “B” tax payer in the secondary level of education and college and above is 14.6 and 7.5 times, respectively, in favor of compliance behavior than primary level completed. As presented in table 4.6, the marginal effect result show the shift from primary level education to secondary level and college and above could improve compliance behavior of tax payers by approximately 9%and 11% respectively.

5. Conclusion and Recommendations

5.1 Conclusion

This study is conducted with the objective of identifying the most significant economic, social, fiscal and demographic factors determining the tax compliance behavior of category “A” and “B” tax payers in South Gondar zone of the Amhara region. Primary data collected from 295 respondents (approximately 87.3% response rate) from 11 districts is used. The data is collected by using structured questionnaire after translation is made into the local language, Amharic. Both descriptive and econometric analyses are used.

In order to identify the significant determinants of tax compliance behavior, binary logit model is applied. The effect of various determinants on the probability of exhibiting compliance behavior is examined. Finally, the study identified:

- ❖ Audit rate, attitude, perception on equity of the tax system and benefit and education are found to have statistically significant positive determinants of tax compliance behavior.
- ❖ Tax rate, audit probability, social norm, compliance cost and sex are identified to have statistically significant negative effects on tax compliance behavior.
- ❖ Penalty rate, Perception of government Spending, training to enhance tax knowledge and age of the respondent are identified to have statistically insignificant effects on compliance behavior of category “A” and “B” tax payers in South Gondar zone.

5.2 Recommendation

Based on the empirical findings, this study would like to forward the following recommendations:

- As tax rate is in country wide, the tax law should be moderate in relation to tax rate or the government should adjust the tax rate because it is not high tax rate that generate income but evasion increases with increasing tax rate.
- The capability to detect fraud or evasion is crucial to taxpayers to be compliant. Therefore, tax authority should increase audit probability because evidence of increased compliance is detected as the result of the increased probability of an expected audit.
- It is natural for people whose friends pay taxes to think that the probability of audit is high and people whose friends do not pay taxes to think (realize) that the probability of audit is low. Therefore the tax authority should increase the probability of audit and should do more on tax awareness campaigns to the

community (taxpayers) about paying tax is right and appropriate.

- The tax administration and/or authority should simplify the tax process as much as possible to make it easier by reducing the compliance costs. Moreover, the E-taxation process and simplification of tax laws should be given priorities in ERCA plans.
- The tax authority should encouraged in relation to uninterrupted auditing because it increases the compliance of taxpayers by showing the articles of the law violated and the way forward to avoid future mistakes that will be made by taxpayers in his/her books of accounts. Moreover, tax audit means tax education and advice for taxpayers.
- The tax attitude is more depends on the perceived use of the money collected and therefore are connected to tax knowledge. Therefore the tax authorities should be continuing in creating tax awareness to fill the tax knowledge gap.
- Tax authorities and officers should be encouraged to treat taxpayers equally in a respectful and responsible way, because it will increase trust in the government and thus voluntary tax compliance is likely to increase on the individual, group and societal level.

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